

Clothes *and your appearance*

Louise A. Liddell



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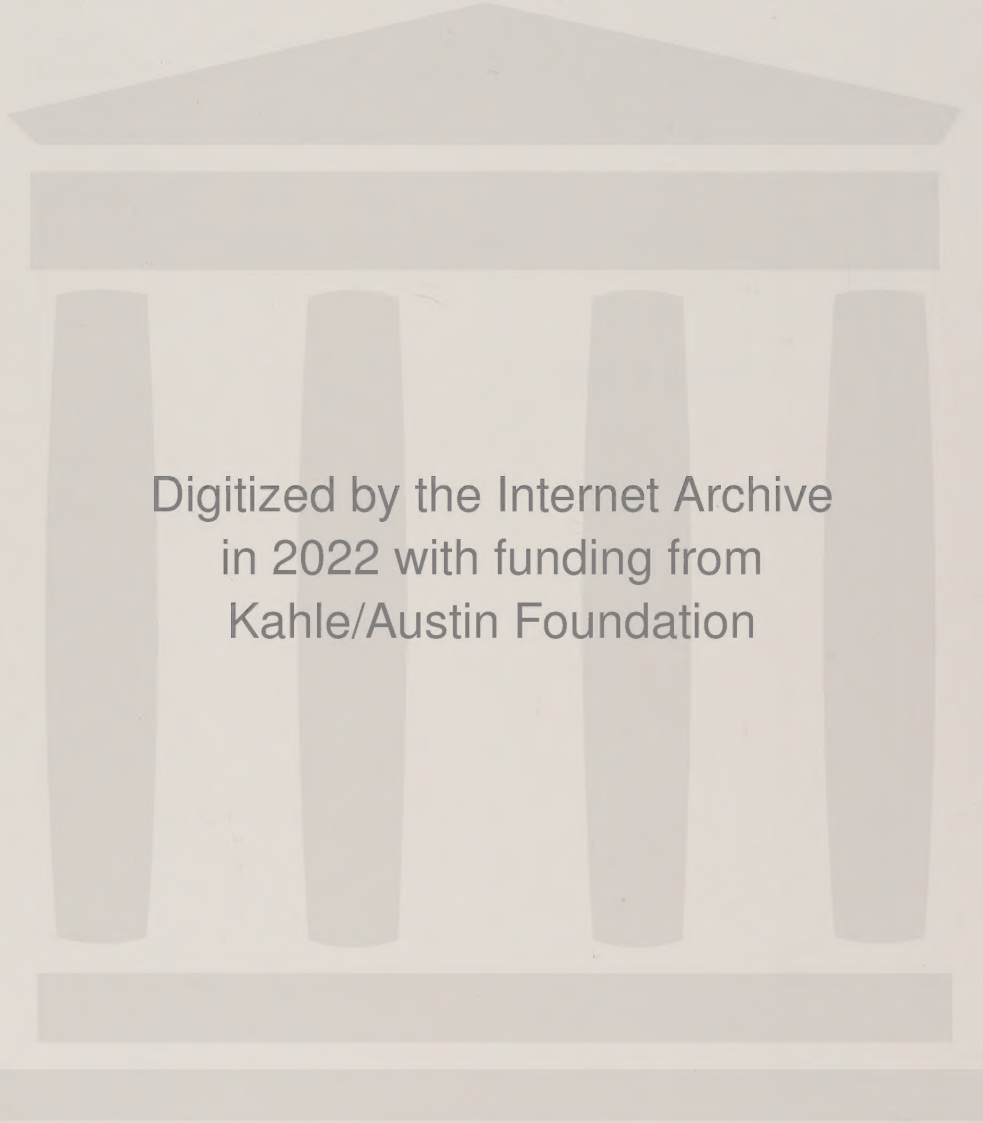
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Clothes *and your appearance*



Louise A. Liddell, C.F.C.S.
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Introduction

Clothes and Your Appearance is written for you. It will help you see how your values, attitudes, goals, and needs affect your clothing choices. You will see how your personal characteristics affect the clothes you wear and the choices you make. *Clothes and Your Appearance* will introduce you to many areas of personal grooming, clothing, textiles, related art, and careers in the clothing field.

Clothes and Your Appearance is easy to read with many drawings, photographs, and charts. Each chapter begins with learning objectives and ends with review materials to help you understand the information presented. Interesting ways to learn more about clothing are also suggested.

This edition of *Clothes and Your Appearance* has a fresh, new appearance. New photos reflect contemporary life. Topics have been revised or expanded to include current trends and new information. A method to select your best colors is presented. Current figure types and new sizing information make this text accurate and up-to-date. The newly revised pattern measurement charts include unisex pattern sizes.

Clothes and Your Appearance covers many areas of clothing. To help you select, buy, and care for your clothes, consumer information and decision-making skills are presented. To help you understand fashion, cultural and historical influences are covered as well as fashion terms.

You will learn about the evolution of textiles and garment making and the technology that has helped make it the huge industry that it is today. Facts about textiles give you the background needed to understand fabric performance. An introduction to sewing includes the selection and use of equipment, fabric, and patterns. Basic sewing skills are then presented. The use of a sewing machine and the serger are also covered. The last chapter introduces you to different careers you might pursue related to clothing and textiles. All of these topics will help you understand the reasons behind your clothing choices and how clothing influences your life.

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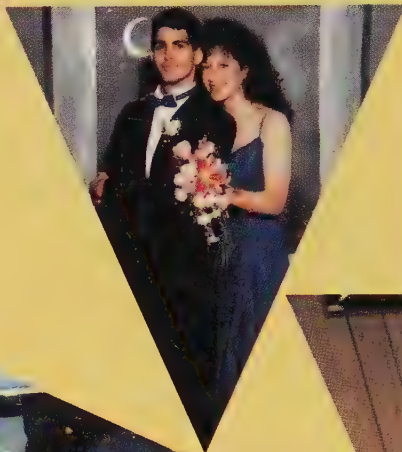
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Part 1

What Is Best for You

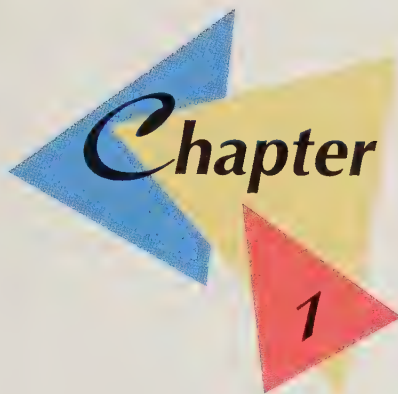
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TO SEW

Your clothes can reflect your personality and self-concept. They can also affect the first impression others may form of you.



Making the Most of What You Have

After studying this chapter you will be able to

- define personality and list personality traits.
- determine factors that influence your personality.
- describe the advantages of having a good self-concept.
- identify ways to strengthen your self-concept.
- explain how clothes can be used to create positive first impressions.
- give examples of how you can use body language to convey messages about yourself.
- select appropriate clothing for different occasions and activities.
- evaluate your features objectively and decide which features you should "play-up"

Clothes are an important part of your life. You wear them every day, but do you use them? If you know how to use clothes, they can help you tell other people about yourself. They can help you feel good about yourself. And they can help you look your best.

You are unique! You are not exactly like any other person in the whole world. Your features, such as hair, complexion, eyes, and body shape may be similar to those of other people. You may look like other members of your family, but no two people are exactly alike. There are even differences in identical twins.

YOUR PERSONALITY

Just as no two people look exactly alike, neither do people think and feel the same. The thoughts and feelings that make you different from others are called *personality*.

Your personality is made up of many traits. *Traits* are qualities that make you different from everyone else. What traits are included in your personality? Study the chart in 1-1. Make a list of personality traits

that you think belong to you. Ask a friend to make a list of the traits that describe you. Compare the lists. How are they alike? How are they different?

Your habits and actions as well as your interests and skills are part of your personality. You may feel that because you and your friend have the same interests, that you both think and feel exactly alike about many issues. But you should also keep in mind that you are each unique people with your own thoughts and feelings.

Influences on personality

Your surroundings affect your personality. Your surroundings include your fami-

ly, friends, school, and community. They all affect your personality in some way.

You were not born with your personality. It develops and changes as you mature. You may not have the same personality all of the time. When you are around people that you don't know, you may be reserved and talk very little. They may think you are a quiet, shy person. But when you are with your friends, you may talk a lot and laugh often. You can show a different type of personality according to the occasion. You can be the person you want to be, 1-2.

PERSONALITY TRAITS	
Aggressive	Introverted
Assertive	Jealous
Agreeable	Kind
Aloof	Lazy
Boring	Loyal
Cheerful	Mature
Careful	Moody
Crabby	Nice
Confident	Responsible
Capable	Relaxed
Considerate	Rejecting
Cooperative	Silly
Critical	Sincere
Dependable	Self-confident
Dishonest	Sad
Easygoing	Shy
Excitable	Self-disciplined
Flighty	Understanding
Friendly	Unreliable
Faithful	Tolerant
Funny	Talkative
Generous	Trustworthy
Grumpy	Tense
Gloomy	Supportive
Greedy	Thoughtful
Happy	Quarrelsome
Honest	Warm

1-1 Your unique personality can be described by traits such as these.



1-2 Your facial expression is a clue to your personality. Would you like to have this girl as a friend?

Your personality also develops from your experiences and activities. As you grow, change, and have new experiences, your personality traits will also change. You will have new interests, new friends, and learn new skills.

Personality and appearance

The way you dress is one way you express your personality. If you are a happy-go-lucky person, you may be less concerned about what you wear than someone who always wants to be perfect. You may like to wear casual clothes, or you may prefer a more formal look, 1-3. Wearing the same type of clothes as your friends may make you feel more comfortable and part of the group. On the other hand, you may like to be unique. You might enjoy wearing new or different styles of clothes that are not like your friends' clothes. This could be a way of expressing a personality that says you

enjoy being original and different. What type of person do your clothes express?

SELF-CONCEPT— THE KEY TO GOOD LOOKS

The mental picture you have of yourself is called your *self-concept*. This is your idea of who you are and what you are like. These ideas are usually personal and private. You know the kinds of people you like and what you like to do. You also know how you feel about certain things and your dreams of what you will be some day.

A good self-concept

You have a good self-concept if you feel good about yourself and if you feel you are a worthwhile person. You enjoy life; you like people; and you feel you can accomplish many things. When you have a good self-concept, you have a positive outlook on life, 1-4.



THE McCALL PATTERN COMPANY

1-3 The clothes you wear and the way you wear them can express your personality.



SIMPLICITY PATTERN CO., INC.

1-4 What does this man's expression tell you about his self-concept?

What influences your self-concept? Your family, your friends, your environment, and all the experiences you have had affect your self-concept. Your family is a strong influence in your life. Many families provide security, love, encouragement, and guidelines. This gives you a sturdy base for a positive self-concept. Your friends also help you in forming your self-concept. Their support for you in what you do gives you a feeling of belonging and of being a worthwhile person. Your environment and experiences also play a major role in shaping your self-concept. If you take pride in your school, community, and accomplishments, you will have a good self-concept.

A poor self-concept

Some people do not have good self-concepts of themselves. They think of their shortcomings and failures instead of their good qualities. When given a compliment, they shrug it off thinking that they are not worthy of praise. They may be unsure of themselves and uncomfortable with others. Instead of having views and opinions of their own, they accept the ideas of others and seldom know how they really feel. When they make a mistake, they dwell on their failure instead of learning from it.

Improving your self-concept

Everyone has some positive traits. You may be friendly to a new student at your school or help your neighbor find a lost pet. These persons may say positive things about you because of your actions. You may be complimented on your new hair style or on a good test score. Accept these comments and feel good about them. Look for other good points that you have. This will strengthen your self-concept. Don't sell

yourself short; you have many good qualities. Recognize your strengths. When you do something well, pat yourself on the back. If you like yourself, others will find it easier to like you, too.

Your appearance and self-concept

The way you dress and your overall appearance can affect your self-concept. When you are wearing a new outfit, you may feel great all day. You know the color is one of your best and the fit is perfect. When you know you look good, you feel better about yourself.

But suppose you got up too late one morning. You had to dress quickly and the clothes you grabbed did not go together



PIERRE BALMAIN

1-5 In some families, all members seem to be happy and easygoing. Their self-concept is strong enough to enjoy dressing in a similar fashion.



THE McCALL PATTERN COMPANY

1-6 The clothes people wear are an expression of their personality. Clothes can also be worn to create impressions.

well and really needed pressing. No time for that this morning! All day long you may have felt grumpy, impatient, and uncomfortable because of the way you were dressed.

In some families, all members seem to have a good self-concept. They may relate well to each other. One way of showing togetherness is dressing alike as in 1-5.

Studies have shown that your feelings about yourself are usually shown in your appearance. Clothing reflects your mental attitude. Do you try to look nice most of the time but dress sloppily one day? You may reflect your unusual mood that day through your choice of clothing.

Some teens think that looking good is never important. They do not feel that clothes can express what is inside a person.

But this is the exception. Most young people who have a good self-concept show it by dressing well.

FIRST IMPRESSIONS

Along with your self-concept, you have a public image. This is the way you look to others. Within a few seconds after meeting you, people will form their impression of you—your age, size, nationality, and whether they would like to know you better. A *first impression* is the way you feel about people when you first meet them. What are your impressions of the people in 1-6?

The way people dress is one way they give you your impression of them. You are impressed by what they are wearing because their clothing is the first thing you see. It is also the largest area you see. You notice their clothing before you see their faces or hear their voices.

Someone has said that clothing is a silent language—it speaks for us! Therefore, clothing is important in making a first impression.

BODY LANGUAGE

What you do or say when you first meet people also helps them form a first impression of you. The way you use your body, such as your eyes, arms, and hands, communicates something about you. Your facial expressions and your posture also tell others about you. This nonverbal communication is called *body language*.

Looking people in the eye when you meet them sends a message that you are friendly. Not making eye contact could say you may be shy. If you look away while they

are talking, they may feel you are not listening to what they are saying. This could cause them not to be interested in getting to know you.

Gestures with your arms and hands and how you handle your body also send nonverbal messages. Some people use their hands constantly while they are talking. Perhaps they feel the gestures help emphasize their messages. For instance, a clinched fist can send a message of approval or anger according to the facial expression that goes with it. Winning a contest could cause you to have a big smile and raise a clinched fist in the air over your head. The same clinched fist with a heavy frown on your face could say you are angry. Many people are not aware of how much they talk with their hands.

If your arms are folded or crossed, you may be sending a negative message. You may say you are uncomfortable or wish to be left alone. This gesture could also say you are bored.

You can communicate a variety of emotions by your facial expressions. You may appear happy, sad, angry, interested, bored, excited, or puzzled. When a teacher asks you a question and you answer it correctly, you may have a pleased look on your face. If you cannot solve a problem, you may look frustrated.

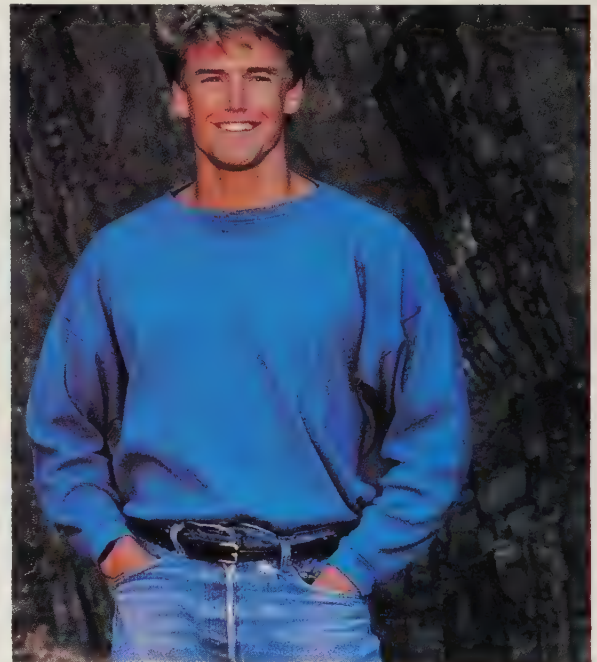
Tapping your fingers on a table could say you are impatient. You may not be interested in what people around you are saying. Shrugging your shoulders tells people you do not know or care about what they are saying.

Your posture—the way you stand, walk, and sit—also tell others a great deal about you. People with poor posture may send a message of “I don’t care.” They seem to

be either bored, tired, or in poor health. None of these messages may be true; poor posture can become a habit. You may not be aware of the messages you are sending if you have poor posture.

SELECTING APPROPRIATE CLOTHES AND ACCESSORIES

Dressing appropriately means wearing clothes that are suitable for the occasion. This includes clothes for school, relaxing with friends, working around home, and special occasions. The climate where you live will have an influence on what you wear. The accepted customs of your community will also affect what is appropriate clothing for you, 1-7.



LEVI STRAUSS & CO.

1-7 Our clothes speak for us. Where would be an appropriate place to wear jeans and a sweatshirt?

During your teenage years, you are trying to establish your own identity. You want to make your own decisions and do things your own way. There is a strong feeling to want to do as your friends do. *Peer group pressure* (the force that makes you want to be like your friends) is strongest at this time.

At this age, the selection and wearing of clothes often causes conflicts between parents and their teenagers. They may not understand why you want to wear the clothes that you select.

You want to convince the adults in your life that you are growing up. You act mature when you accept responsibility for what you do. Dressing suitably for your activities is one part of being responsible. This means that you realize that there are certain types of clothes that should be worn for the different things you do. In most areas, jeans, jerseys, and sweatshirts can be worn to school, the movies, or to attend a sports activity. However, these outfits might not be appropriate for a religious service. See 1-8.



1-8 Some outfits are suitable for many different activities or occasions. Where might teens wear these clothes?

School clothes

Most of your clothing is bought for school wear. This same clothing can be appropriate for other activities such as shopping, movies, spectator sports, babysitting, and visiting friends. As school clothes become worn, they can be worn as you do chores such as mowing the lawn or washing the car.

It is impossible to say what should be worn to which places for all teenagers. Although dress codes are seldom written, you generally know what you can and cannot wear to school. For instance, when a student's clothing distracts other people, it is unsuitable. If a girl wore a skimpy top, it would be hard not to stare at her. You would wonder how she is feeling about herself. She may be creating the wrong impression. Different parts of the country accept more casual, informal wear than others.

Special occasions

Many school clothes can be changed into special occasion clothing with the addition of accessories. A sport coat, jewelry, a scarf, or a necktie can be added for a dress up look, 1-9.

Some dress up occasions call for clothes different than those worn to school. Although many parties are casual, some are planned to be "dress up." This may mean that sport coats, suits, neckties, or dresses are to be worn.

Parties at the end of school or during holidays could give you a chance to dress up. Some teens think it is a special feeling to get dressed up in their best clothes. Many people seem to have a better self-concept and are happier and more agreeable when they are dressed up. When they are dressed

appropriately, they are able to relax and have a good time.

Other occasions where special clothing, other than school clothing, is worn could be to weddings, religious services, and some elegant restaurants. If you are not sure of the type clothing to wear to an event, ask someone who knows. The person who is



J.C. PENNEY CO., INC.

1-9 Dressing appropriately for special occasions is a sign of having a good self-concept.

responsible for the event, is the best one to ask. Otherwise, ask several of your friends what they plan to wear. You might feel uncomfortable wearing a dress-up outfit if you arrive at a party and discover that it is a pool party.

Climate and clothing

The climate in your area will have an influence on the clothing you select to wear. If you live in certain areas in California, you may never need a heavy overcoat. If you live in Minnesota, one will be necessary.

In many areas, medium-weight clothing is appropriate for the climate. You can add extra sweaters and light-weight jackets to medium-weight garments when days are cold. Several layers will give more warmth than one heavy garment. This is because air is trapped between the layers and becomes warm from the heat of your body.

Community customs and clothing

Communities vary in what is appropriate and acceptable clothing for different places and activities. In some states, the law requires customers to wear shoes and shirts to be admitted to restaurants and stores. Some elegant dining places require coats and ties. If you wish to eat there, you must accept their standard of dress.

Wearing what is expected by the majority of people is important. This may not be what is most comfortable for you. However, you will feel more at ease when you are appropriately dressed.

SELF-EVALUATION

Some people look terrific all of the time. Others never look more than just “so-so.”

What makes the difference? These sharp-looking teens do not necessarily have perfect features. Their face shape, eyes, nose, ears, or mouth may not be the ideal. Neither do they always have a good body shape, called figure for girls and physique for boys. What is their secret?

There is no secret to looking super. It starts with knowing yourself. This is not as easy as it sounds. Studying yourself and listing your good and bad points is a *self-evaluation*.

There is something pretty or nice about everyone. Most of us are critical of our bodies. We seldom accept all the good points we have. Often, we think of our negative points instead of our positive ones. There are some things that cannot be changed: extra big feet, short waist, or long arms. We need to recognize and accept these shortcomings of nature.

At the same time, our good points or assets must be remembered. Most people do not realize how many good points they have. Take a good look at yourself. Decide what is best about you and what you would like to make look better. A self-evaluation can be the place to start.

Since you will be learning about yourself, let us start with the largest area of you — your body. What is your shape—the outline of your body? This shape is called your *silhouette*. Are you heavy/small, thin/tall or somewhere in-between? Do you have broad shoulders, heavy legs, or a pot tummy? Study yourself in a full-length mirror to determine your silhouette.

As you look at yourself, make some decisions about the other parts of your body too. Make a personal list or chart describing your features. Date and keep this for reference.

Once you really know how you look, you have passed the first step in looking your best. Secondly, you must decide what you want to cover up and what you want to show off to even better advantage. You could call it playing-up your good points and playing-down your poorer ones, 1-10.

There are many ways to accomplish this. This style of clothing you choose can help. You can also use color and design to enhance your good points and to cover up your poorer ones. You will discover how to use color and other aspects of design in the next chapters.



SPIEGEL, INC.

1-10 Looking super starts with knowing yourself. Professional models know how to play up their best features by the clothes they wear. Beautiful hair and a long neck are accentuated by the neckline style of this dress.

to know

body language	self-concept
first impression	self-evaluation
peer group pressure	silhouette
personality	traits

to review

1. List 10 personality traits.
2. (True or False) Your personality stays the same all of the time.
3. The way you _____ and your overall appearance can affect your self-concept.
4. Persons with a good self-concept:
 - a. Dislike most of the people they meet.
 - b. Think they can do nothing right.
 - c. Are usually happy and cheerful.
5. Do you believe a first impression is important? Defend your answer.
6. Give three examples of body language and tell what they mean.
7. Explain what dressing appropriately means.
8. You are “suitably” dressed when you wear:
 - a. Cut-off shorts to school.
 - b. A dress or suit to religious services.
 - c. A suit to work in the garden.
9. Many school clothes can be changed into special occasion clothing with the addition of _____.
10. What is the difference between negative and positive points as related to appearance?

to do

1. Make a list of personality traits you think a person has because of the influence of his or her family. Include emotions, attitudes, mannerisms, likes, and dislikes.

2. Discuss the personality traits you like most about the employees in a store where you often shop. Discuss traits you dislike most.

3. Write a report describing the personality of a television character. Include both good and bad qualities. Discuss whether his or her personal appearance gives a clue to his or her personality.

4. Invite an employer to class to talk about personality and job success. Which traits are the most important? Which traits cause problems?

5. Write a paragraph “As I See Me.” Do not sign your paper. Turn all papers to the teacher who will read the descriptions. Have the class try to identify the person. Record how many are guessed correctly. Do others see you as you see yourself?

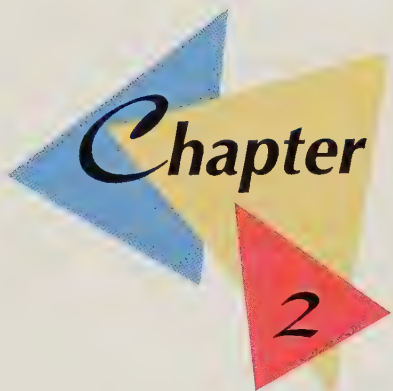
6. Describe factors that influence personality. Include both positive and negative ones.

7. Make a list of the things that affect your first impression of a person. Compare lists from all class members. Make a master list naming the most mentioned things first.

8. Make a list of types of body language that can help a person to make a good impression on others. Then make a list of types of body language that can make a poor impression on others. Discuss the lists in class.

9. Collect pictures of people’s faces. Discuss the influence of facial expressions on people.

10. Collect pictures of people and react to their appearance. List various activities. Indicate which people are dressed appropriately for each activity.



Colors for You

After studying this chapter you will be able to

- evaluate a color according to value and intensity.
- describe the relationship of colors in the color wheel.
- identify warm and cool colors.
- choose colors that enhance your skin tone, hair, and eyecolor, body shape, and personality.
- describe the influence of color on your moods, feelings, and looks.

Color affects you in many ways. Look at 2-1 and 2-2. Try to imagine how each would look if everything were colorless. Color is everywhere. It is hard to visualize life without it.

COLOR

Few people are aware of the power of color. For instance, studies have shown that the color red can increase your appetite. Have you ever seen red carpets or furniture in a restaurant? The color was not chosen accidentally. It was planned to encourage you to order more food! Red is also used in many store displays to attract shoppers to certain areas.

When shopping for clothes, color may be the first thing that attracts you to a particular garment. You will be able to make better clothing decisions when you can choose the colors that are best for you. See 2-3.

The range of colors is almost limitless. Some are light; others are dark. Some are bright; others are dull. Understanding these properties of color will help you choose colors that look great on you.



JACK KLASEY

2-1 *Many of the colors in nature can be found in our clothes.*



TO SEW

2-3 *Color is a major factor in clothing selection.*



NATIONAL COTTON COUNCIL OF AMERICA

2-2 *There are over five million different colors cataloged in the textile industry.*

Value and intensity

Value is the lightness or darkness of a color. Each color has a wide value scale from light to dark. Different values are formed when white or black is added to a color. A *tint* is made by adding white to a color. For instance, pink is a tint of red. A *shade* is made by adding black to a color. Maroon is a shade of red, navy is a shade of blue, and brown is a shade of orange.

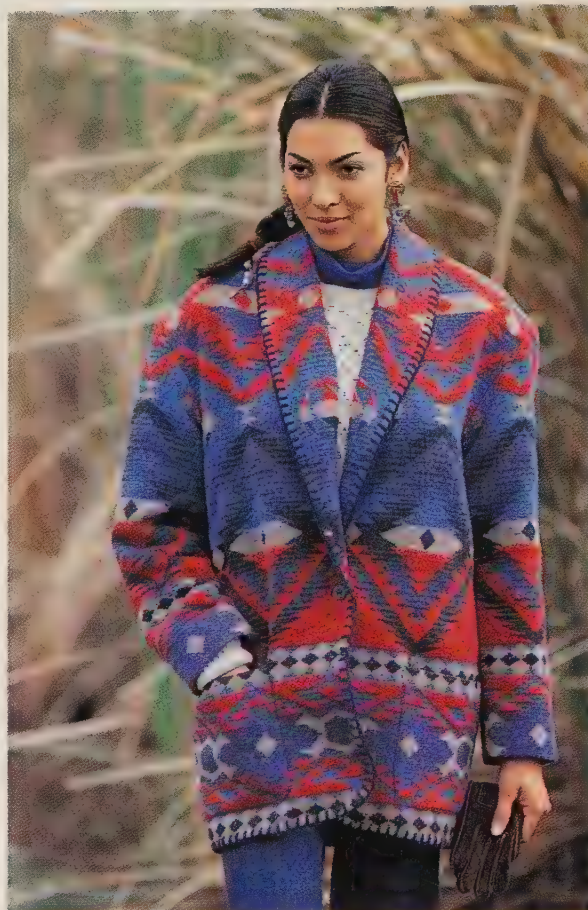
The clothes in 2-4 and 2-5 are based on the same colors. The difference is in the values of the colors. Tints are used in 2-4. Shades are used in 2-5.

The colors of the clothes in 2-5 are also more intense than the colors in 2-4. *Intensity* is the brightness or dullness of a color. Flag blue is bright, and denim blue is dull, but both are blue. A bright color is more intense than a dull color. Adding more of the dominant color makes a color more intense. Adding some of a color's complement will make the color less intense. For instance, adding a little bit of green to the color red will make the red look "grayed."



THE McCALL PATTERN COMPANY

2-4 Tints are used in the design on this white blouse.



SIMPLICITY PATTERN CO., INC.

2-5 The color shades in this jacket are based on the same hue as the tints in the blouse in 2-4. The colors in this jacket are of high intensity.

The color blocks in 2-6 and 2-7 will help you compare tints and shades. The color blocks in 2-8 and 2-9 will help you compare bright and dull intensities.

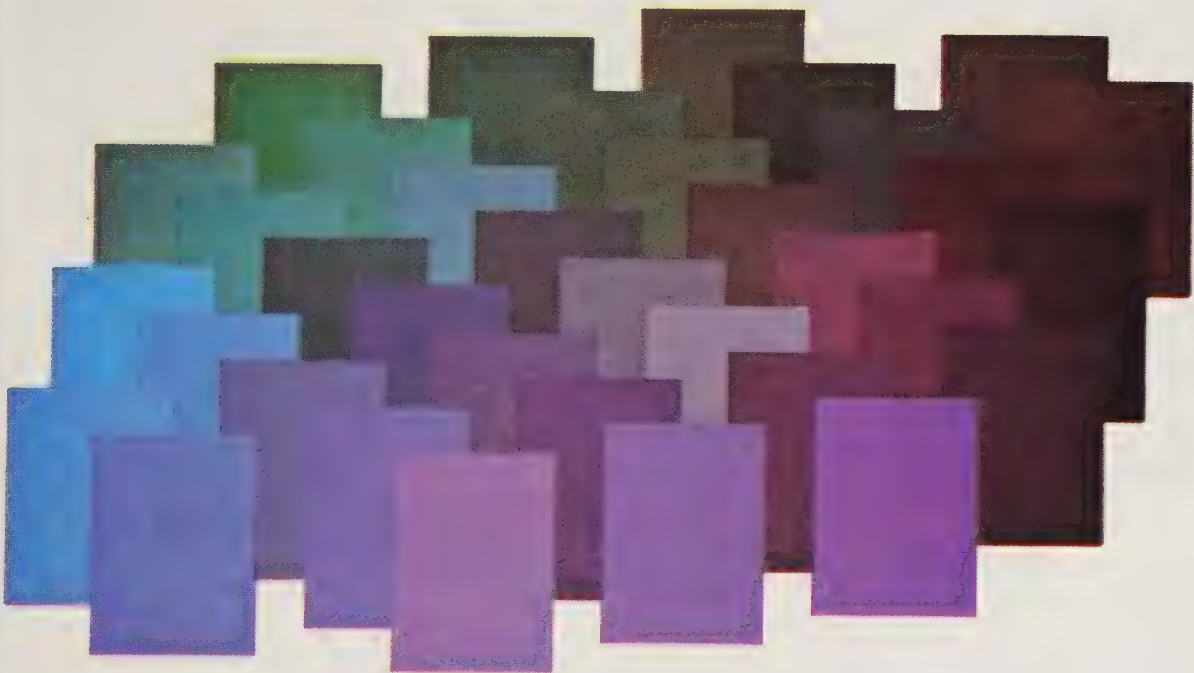
The color wheel

The *color wheel*, 2-10, shows the relationship among colors, or hues. A *hue* is the name of a color. Red, yellow, and blue are the basic or *primary hues*, 2-11. Each is a pure color. No other colors can be combined to make any of these.



NATIONAL BUREAU OF STANDARDS

2-6 The value (lightness or darkness) of any color can be changed. When white is added to a color, the result is a tint.



NATIONAL BUREAU OF STANDARDS

2-7 A shade is made by adding black to a color.

All other colors can be made from the three primary colors. Red and yellow make orange; yellow and blue make green; and red

and blue make violet (purple). Orange, green, and violet are called secondary hues. They are located evenly between each primary hue on the color wheel.



NATIONAL BUREAU OF STANDARDS

2-8 Colors look more intense when more of the dominant color is added.



NATIONAL BUREAU OF STANDARDS

2-9 A color looks less intense (grayed) when some of its complement is added to it.

You can make new colors by combining the primary and a secondary color. These are called *intermediate hues*. These are red-violet,

blue-violet, blue-green, yellow-green, yellow-orange, and red-orange. Locate them between a primary and secondary hue on the color wheel.



2-10 Colors in a color wheel are arranged in a circle to show how they relate to one another. Each color seems to “belong” between its neighbors. The inner ring shows tints of the colors. The outer ring shows shades of the colors.



SPIEGEL, INC.

2-11 Red and blue are primary colors along with yellow. Some people can wear all three and look great.

Color schemes

Appealing combinations of colors form *color schemes*. You can use the color wheel to see how various color schemes are formed.

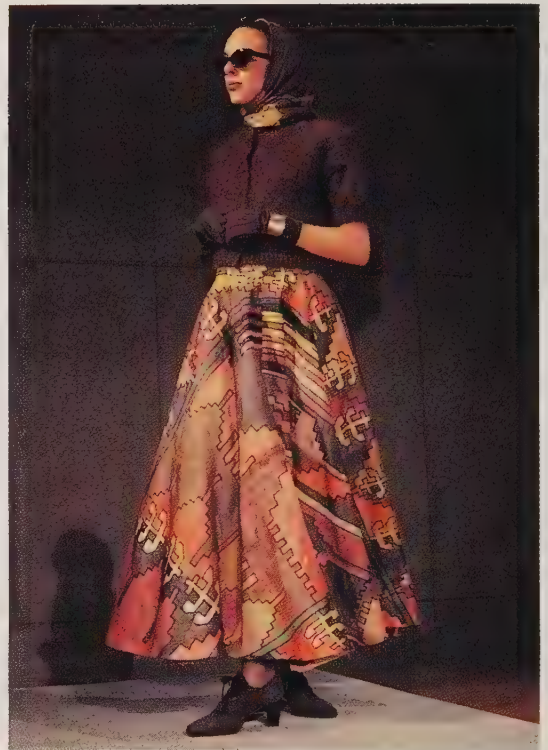
One color scheme is called the *monochromatic color scheme*. It is formed when several values of one color are used together. For instance, you might use pink, red, and maroon together to form a monochromatic scheme. Someone wearing a pale blue shirt, navy jeans, and pure blue socks would have created a monochromatic outfit.

Colors that are opposite each other on the color wheel form a *complementary color scheme*. An example is shown in 2-12. When put side by side, complementary colors make

each other look brighter. For instance, the complement of blue is orange. When the two colors are used together, both seem brighter. Red and green are stronger when used together, as are yellow and violet. When mixed together, as in paints or dyes, any pair of complementary colors will produce gray.

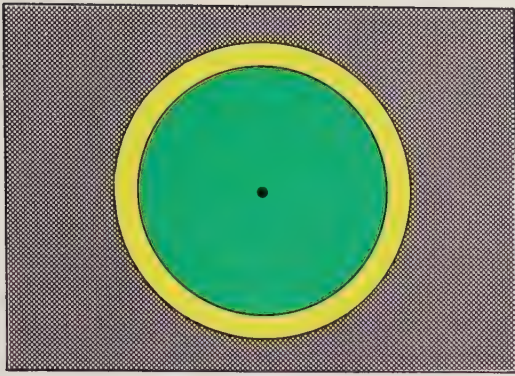
In 2-13 you see a green circle surrounded by yellow. Follow the directions given under the picture. Did you see an after image of a red circle bordered in violet? Your visual perception was changed. This perceptual change will occur with other colors, too. If you stare at a color, you will see its complement.

Adjacent colors are the colors that are next to each other on the color wheel. They are



FASHION INSTITUTE OF TECHNOLOGY

2-12 The contrast of complementary colors, such as shades of purple and yellow, makes the colors look brighter.



2-13 Study the black dot in the green circle for at least 20 seconds. Then look at a blank, white surface and see what happens. You will see a red circle bordered by violet. Red is the complement of green. Violet is the complement of yellow.

closely related and always blend well. When adjacent colors are used together, they form an *analogous color scheme*. You can find analogous color schemes in nature. An example of a natural analogous color scheme is the yellows, oranges, and reds of autumn leaves.

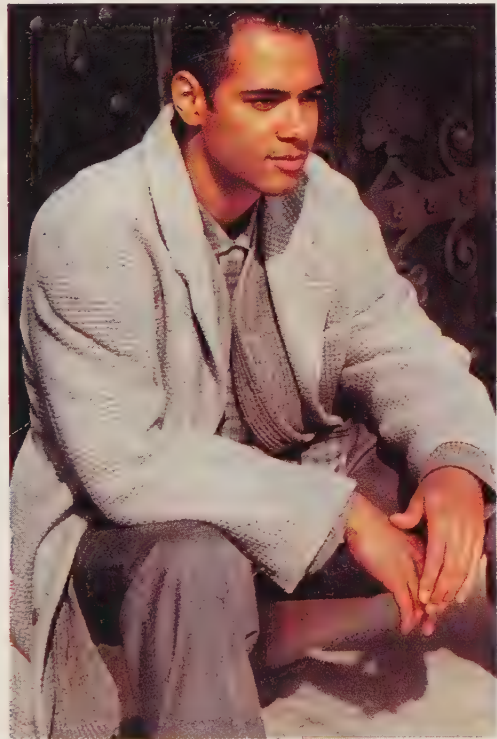
Neutrals

Black, white, and gray do not appear on the color wheel. They are *neutrals*. White is the absence of color. It reflects light. Black absorbs all color and light. When white and black are used together, the contrast produces a dramatic effect, 2-14. When white and black are blended, they form gray, another neutral, 2-15. In clothing, beige is also considered a neutral.



COTTON INCORPORATED

2-14 A dramatic effect is achieved when black and white are used together.



THE FASHION ASSOCIATION

2-15 The neutrals black and white are blended to produce the neutral gray.

You can wear black, white, gray, and beige with all colors. Neutrals are often used as basics in planning a wardrobe. You can mix and match them with various colors to produce a pleasing look. When a small amount of color is used with a neutral, the color becomes more vivid.

As white reflects light, objects appear larger. Light reflection also makes white and light-colored clothing feel cooler. This is why people often wear white clothes in tropical climates or in the summer.

As black absorbs light, objects appear smaller. Light absorption makes black and dark-colored clothes feel warmer. This is why dark clothes are popular in cold climates.

Warm and cool colors

Red, orange, and yellow are considered *warm* colors. They are bright and cheerful, and suggest activity. Many people like to wear warm colors.

Blues, greens, and purples are the *cool* colors. Restful, relaxing, refreshing, cool, soothing, and serious are terms often used to describe these colors. Long-term hospital patients may stay in rooms painted soft green or blue-green. These colors help them feel relaxed and comfortable.

Warm, light, and bright colors appear to advance. Look around you. A warm color is likely to catch your eye first. This is why warm colors are used for traffic signs and danger signals, 2-16. Hunters wear red caps so they can be seen easily. Red and orange flags are used on construction projects. Traffic police wear yellow raincoats.

Advertising designers use this knowledge of color in their work. Notice how many food products have yellow or red in their labels when you are in a food store. The advancing colors attract your attention quickly.



2-16 Black on yellow is the most distinct color combination. These colors are used on warning signs for traffic.

Cool, dark, and dull colors appear to recede (move away). A person can look thinner in a blue outfit than in a red one. Slacks of dark, cool colors, gray, or black will help de-emphasize large hips.

Now look at 2-17. Can you see how warm colors “advance” and cool colors “recede?”

CHOOSING YOUR BEST COLORS

There are hundreds of colors in your life; each is a little different. Knowing about color is called color sense. You were not born with it, but you can easily acquire it. See 2-18 for some statements to help you.

Your choice of color will depend on your personal coloring, body shape, personality, and present wardrobe. The season of the year or a special occasion may also be a factor. Select colors that look good on you, give you self-confidence, and make you feel that you are at your best.



HAAN CRAFTS

2-17 Warm colors catch your eye before cool colors or neutrals.

COLOR SELECTION GUIDELINES

- Decide which color does the most for you.
- Select a neutral or a basic color for your clothing. Beige, navy blue, or black are often used.
- With beige—try brown, orange, rust, black, dark green, blue-green, white, and coral.
- With navy blue—use bright green, red, white, pink, yellow, coral, and light blue.
- With black—any color can be used. Because of the sharp contrast, some tints and shades will be better than others.
- Use your basic color selection for items that cost the most money and can be worn several years—coats and suits.
- Use light and bright colors to play up your good features. Use dull, dark colors to play down your bad features.
- Use bright colors in small amounts to add interest and for accent. Do not use too many at a time; a spotty effect will result.
- Plan your clothes so that you will be able to “mix and match.” This way you will have several different outfits and save money.

Colors for your skin tone

How can you decide which colors are best for you? Your personal coloring, which includes your skin tone, determines which colors look best on you. Your facial coloring is your main concern. You cannot trade it in for another one! You can change the clothes you choose but not your basic facial coloring. If you choose the right colors for your clothes, your facial color will look great.

Skin contains brown, yellow, and red pigments that determine skin tone. Your skin tone will reflect more of one pigment than of another. Darker skinned people have more brown pigment than lighter skinned people, 2-19.

Skin color also has blue or yellow undertones. You may be able to see these undertones in the coloring of the inside of your wrist. People with blue undertones will look best in cool colors. People with yellow undertones will look best in warm colors. Some cosmetics manufacturers market products designed for warm and cool skin tones.

2-18 Use color sense in choosing your best colors.



PINEAPPLE APPEAL

2-19 People have many different skin tones. Your best colors to wear are determined by your skin tone and your skin undertones.

Colors for your hair and eyes

Another important consideration in selecting your best colors is the color of your hair and eyes. Your hair can take on a new glow with the right colors. Color can also affect the color and brightness of your eyes. See 2-20.

You can emphasize your hair and eye color in two ways. You can choose clothes in tints or shades of your hair or eyes. For instance, beige or tan would emphasize brown hair color.

The second way to emphasize hair and eye color is to choose clothes in complementary colors. For instance, a red shirt will help emphasize green eyes.

Most eyes contain a touch of several colors. Some eyes seem to change color when different colors are worn. For instance, hazel eyes will seem greener when green is worn. Blue eyes may seem bluer when a blue garment is worn. Color does not influence brown eyes as much as other eye colors.



2-20 Hair and eye color can be enhanced by the colors that you wear.

Your seasonal coloring

Your personal coloring is sometimes described as one of the four seasons of the year. If you have winter or summer coloring, you have blue undertones in your skin color. If you have spring or autumn coloring, you have yellow undertones. See 2-21.

There are more people with *winter* coloring than with any other seasonal coloring. People with *winter* coloring usually have dark hair and eyes. They are the only people that should wear true black or pure white. Bright, vivid, contrasting colors with blue

THE SEASONAL APPROACH TO YOUR PERSONAL COLORING

YOUR SEASON	WINTER	SUMMER	AUTUMN	SPRING
SKIN COLORING	<u>Blue Undertones</u> Milk white (colorless) White (with slight undertone) Beige (with slight sallowness) Rosy beige Olive Black Freckles: Dark brown, gray	<u>Blue Undertones</u> Light beige (with a little tinge of pink) Light beige (no color, slightly pale) Rosy pink Dark brown Freckles: Medium to dark brown	<u>Yellow Undertones</u> Pure ivory Peach Golden beige Coppery beige Coppery brown Golden black Freckles: Golden blond or light brown	<u>Yellow Undertones</u> Ivory Peach Peachy pink Peachy beige Light beige Golden beige Peachy brown Brown Freckles: Light golden brown
HAIR COLORING	Black (with blue cast) Brown (medium to dark, maybe red highlights) Blond (white) Salt and pepper Silver-gray white (snow)	Platinum Blond Ash blond Smoky blond Smoky brown (or reddish cast) Dark brown (taupe cast) Blue-gray	Red (carrot-top) Reddish brown Golden brown Golden blond Charcoal black Bronze or metallic gray	Yellow blond Golden blond Strawberry blond Redhead Auburn Golden Brown Golden gray
EYES	Black Dark Brown Brown (with a reddish cast) Hazel (with varying shades of gray, green, blue) Green (with blue or green combination) Medium blue Dark blue	Blue (clear, sky blue, aqua, may have white flecks) Gray-blue (may be chameleon) Soft pale gray Green (may have white flecks) Hazel (with flecks)	Dark brown Golden brown Hazel (brownish-green) Deep to pale Green (gold, brown or citron flecks) Jade green Peacock blue	Clear/bright blue Aqua blue (with turquoise) Bluish-green Clear green Light brown Golden to topaz brown

2-21 Compare your personal coloring to determine your seasonal coloring.

undertones are their best colors, 2-22. Faded or muted colors are not good choices. Silver or pewter tones in jewelry look best.

People with *summer* coloring have hints of pink in their skin. They might easily sunburn. Their eyes are normally very blue; some might have shades of green or hazel. Their hair is usually ash to light blond with light to golden blond highlights. Soft, cool colors

look best on people with summer coloring. Silver or pewter toned jewelry flatters their skin tones.

People with *spring* coloring have the most delicate coloring of any season. Their hair color is often light to strawberry blond, pale brown, or reddish brown. Their eyes are usually blue but can be shades of blue-green. People with spring coloring look best in



COTTON INCORPORATED

2-22 Clear, vivid navy blue looks sharp with the blue skin undertones and dark hair of this woman classified as a winter season type.

clear, bright colors in medium to light shades. They should not wear muted or faded colors. Gold jewelry tones are best.

People with *autumn* coloring can have ivory or peach colored skin, and they may have freckles. Their hair may be light or dark brown hair with auburn or red highlights. People with autumn coloring often have brown eyes, but hazel, green, or blue-green eyes are also common. These people can wear muted as well as vivid colors. They look best in the colors of fall foliage. Gold jewelry looks great with the autumn colors.

Your personal coloring determines the colors that look best on you. If you have winter or summer coloring, you look best in cool colors. If you have spring or autumn coloring,

warm colors are best for you to wear. Many colors will look great with your personal coloring!

What is your seasonal coloring? Put fabric drapes of colors best for the different seasons around your shoulders. Cover any clothes you are wearing. Study the effects in a large mirror to determine which colors look best on you. Do some colors enhance the blue or yellow undertones of your skin? Do the colors that look best on you seem to fall into a warm or cool category? The best colors for you will accent your personal coloring. See 2-23.

Colors for your body shape

Color is one of the best ways to make the most of your body shape. See 2-24. Body shape is called figure for girls and physique



LANDS' END

2-23 Choosing the right colors for your clothes accentuates your personal coloring.

EFFECTS OF COLOR ON YOUR BODY SHAPE

- Wear neutrals to draw attention away from your body. Add color in accessories.
- Black and navy blue are slenderizing.
- If you are tall and thin, wear two or three piece outfits in contrasting colors.
- To appear taller, wear an outfit of only one color, especially a cool color.
- Bold, bright colors and white make an area appear larger; they seem to add weight.
- A small person should wear separates that are one color or are an analogous color scheme. A scattered look will result if too many different colors are worn.
- If you are short-waisted, select colored tops that continue below your waistline.
- Multicolored or light shoes will draw attention to the feet and make them appear larger.
- Wide, light-colored belts will make a waistline appear larger.
- A one-color outfit is the most flattering on a heavier person.
- Turtlenecks make long necks appear shorter.

2-24 These are some of the effects of color on your body shape.

for guys. Most people can wear white and off-white. It will make an area appear larger. If you want to emphasize your broad shoulders, select a garment with white or a light color near that area. See 2-25.

Perhaps you have found a color that you like and that is right for your body shape. However, you find little of this color in your clothes. You cannot toss everything out and start over! Plan carefully to add this color to your wardrobe. Stick to a one-color addition to avoid confusion. Try to see what other clothes you now own that could be worn with new clothes of this color. You must decide which colors look best and do the most for you.



ADIDAS

2-25 The white stripe across this man's jacket makes his broad shoulders look even broader. Use your knowledge of color to play up your best features.

Colors for your personality

Your personality often influences colors you wear, 2-26. People who wear more warm colors than cool colors are usually described as outgoing. They are often lively, active, and energetic. They love bright colors. They feel light-hearted and cheerful when wearing bright colors.

Other people may feel shy and uncomfortable in such bright colors. Orange or red could overshadow their personalities. Cool or conservative colors might make them feel more at ease. They feel better in the refreshing, calm look of blues and greens.

Look at the clothes you own. You may be able to tell whether you prefer warm or cool colors. Do you see more of one type of color



THE McCALL PATTERN COMPANY

2-26 *The colors you choose to wear may reflect something about your personality.*

than another? This should give you a clue as to whether you are a cool or warm color person.

Some colors make you feel good because you are sure you look nice in them. Suppose you receive a compliment on what you are wearing. The color of the outfit probably fits your personality. The color of a garment should suit the type of person who wears it. Your personal likes and dislikes and your tastes influence the colors you select to wear. Wearing the colors that do the most for your looks can have a positive effect on your personality.

Color and feelings

Some colors can be matched with certain feelings or moods. Red is a vibrant color. It is associated with anger, power, danger, passion, war, and love. It makes you feel good and full of energy. Why are fire trucks, stop lights, and emblems during war painted red?

Orange is a warm, lively color. It expresses courage, friendliness, hospitality, and energy.

Yellow is cheerful and bright, 2-27. Over the years it has been associated with prosperity, cowardice, deceit, wisdom, and warmth.

Green is the color of spring. It is restful and refreshing. Green has been associated with luck, envy, life, and hope.

Blue is cool, calm, and dignified. It expresses serenity and formality, and it gives a feeling of spaciousness. It is often associated with depression, as a “blue Monday.”



BUTTERICK COMPANY, INC.

2-27 *Yellow is a bright, cheerful color.*

Purple is the color of royalty, mystery, humility, and dignity. It expresses opulence, wisdom, and suffering.

Neutrals are also associated with various feelings. Black is a mysterious, sophisticated, and strong color. It may symbolize wisdom, evil, and death.

White is serene and cool. It is the symbol of innocence, purity, faith, and peace.

Colors and patterns

When an outfit includes several different patterns, the result usually looks confusing. However, some patterns look as if they belong together. See 2-28. Color can help tie different patterns together. Men often combine patterns when they wear a jacket, shirt, and tie. Patterned garments look great with solid colored ones. This is especially true when the solid color is repeated in the pattern. An example is shown in 2-29.



SPIEGEL, INC.

2-28 Different patterns can be combined in a garment to produce a striking effect.



LANDS' END

2-29 Patterned sweaters look great with solid color slacks. Select one of the colors from the pattern as the solid color.

to know

analogous color scheme	neutrals
autumn coloring	primary hues
color scheme	secondary hues
color wheel	shade
complementary color	spring coloring
scheme	summer coloring
cool colors	tint
hue	value
intensity	warm colors
intermediate hues	winter coloring
monochromatic color	
scheme	

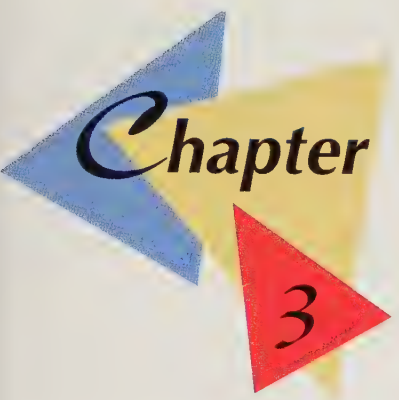
to review

1. Value is the:
 - a. Lightness or darkness of a color.
 - b. Brightness or dullness of a color.
2. The secondary hues are:
 - a. Red, blue, yellow.
 - b. Orange, green, violet.
 - c. Red-violet, blue-violet, blue-green, yellow-green, yellow-orange, red-orange.
3. In a complementary color scheme, the color _____ is used with yellow.
4. An analogous color scheme uses colors that are _____ on the color wheel.
5. _____ colors "advance," and _____ colors "recede."
6. List three guides in selecting colors for your wardrobe.
7. The most important feature in considering your most becoming color is your _____.
8. People with summer coloring might have _____ skin.
 - a. Rosy pink.
 - b. Golden brown.
 - c. Peachy beige.

9. List five factors that determine which colors you should or should not wear.
10. Give an example of how color can affect your mood.

to do

1. Arrange a color wheel on the bulletin board. Group samples of fabric or paper under such words as value, intensity, cool, and warm. Caption: "Put a Little Color in Your Life."
2. Using tempera paints, make a color wheel of primary, secondary, and intermediate colors.
3. Using fabric, construction paper, or paint, make a grouping of a complementary color scheme, an analogous color scheme, and a monochromatic color scheme. Discuss and compare your color schemes with others.
4. Select a color scheme of your choice. Describe an outfit using it. Sketch the outfit. Would this be a good outfit for you to wear? Explain.
5. Select three garments. Describe the colors and tell if they are good ones for you.
6. Select colors for a wardrobe that you can mix-and-match. Explain your selections to class members.
7. Check the clothes you own. Decide which colors you have in quantity. Are these your best colors? What changes or additions would you like to make?
8. From extra readings, report to class on colors that:
 - a. Are used as symbols.
 - b. Reflect tranquillity and peace.
 - c. Arouse passion.
 - d. Are used as warnings.



Chapter

3

Understanding Design

After studying this chapter you will be able to

- discuss the design elements and their importance in clothing design.
- apply the elements and principles of design in evaluating your wardrobe.
- explain how the principles of design relate to the design elements.
- use the elements and principles of design as you select clothes and accessories.

Design refers to a plan that is used to put something together. The elements and principles of design are all around us. Art, buildings, and even cities are designed. The clothes you are now wearing were designed.

Perhaps you like a certain outfit. But do you know why? The design is good. The print, plaid, solid, or stripes look good for that particular fabric. The effect is pleasing; it all looks as if it belongs together. This was carefully planned by a designer using the elements and principles of design that you will study in this chapter, 3-1. The outfit in 3-2 is an example of good design.

How can knowing about design help you? You can select fabrics and garments to cover your figure faults. For instance, if you have a large *derriere* (hips or seat) you will be smart to select a plain fabric or one with a small design. A large plaid would make you look even larger. Small people usually look more attractive in small designs. A large design would overpower them.

By clever use of design, you will be able to show off your best features and camouflage your not-so-good ones. If you



JOHN SENZER FOR THE FASHION INSTITUTE OF TECHNOLOGY

3-1 *Good design is a combination of the elements and principles of design.*

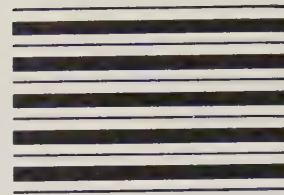


INTERNATIONAL WOOL SECRETARIAT

3-2 *This bold plaid jacket, white slim pants, and matching scarf harmonize to make good design.*



VERTICAL



HORIZONTAL



DIAGONAL



CURVED

3-3 *These are just a few of the types of lines found in clothing.*

camouflage your not-so-good ones. If you know you look good, you will feel good about yourself.

ELEMENTS OF DESIGN

The *elements of design* are color, line, form, and texture. Each of these elements play an important role in clothing design. You can apply your knowledge of the elements of design as you select, buy, or construct clothes. You already have explored the element of color in Chapter 2. Now you will learn about line, form, and texture.

Line

Line gives direction to a design. The most important line is the outline or silhouette of your body. Knowing your

silhouette will help you to decide how you want to use line in your clothing to play-up or play-down your good and bad points.

Lines can be vertical, horizontal, diagonal, or curved, 3-3. They may be used separately or in combination with each other. Lines have different widths and

lengths. The clever use of line can give an illusion that you have a different body shape than you really have. You can select clothes to make you look shorter, taller, larger, or smaller by using lines correctly. Study 3-4 and 3-5 to find what lines are good for you.



3-4 VERTICAL ILLUSIONS. *For a taller and thinner look, select lines that keep the eye moving upward.*



3-5 HORIZONTAL ILLUSIONS. *For a shorter, more rounded look, select lines that keep the eye moving from side to side.*



3-6 *Vertically-striped slacks can make you look taller and thinner.*

Vertical lines lead your eye up and down. They give the feeling of height and stability. Wearing clothes with vertical lines will make you look taller and thinner, 3-6. A vertically-striped dress without a belt can make a girl seem taller because of the unbroken line that is created. Likewise, a vertically-striped shirt, jacket, or jogging suit can make a guy seem taller.

The vertical lines do not have to be stripes. They can be any fabric design that is up and down—circles, dots, prints—any design in a line. There may also be vertical lines within the garment itself. Seams, buttons, pockets, cuffs, and trimmings may be in an up and down line.

Horizontal lines carry the eye across from side to side. The wider the horizon-

tal design, the more your attention is drawn to it. Look at the clothes in 3-7 and 3-8. The guy's sweater attracts your attention more than the girl's dress.

Because horizontal stripes carry the eye across from side to side, an area with these lines seems wider and therefore larger or heavier.

If you feel you are too tall and too thin, select garments that have horizontal stripes. You will seem less tall and thin. A wide belt will make you seem shorter. The belt will seem to cut you in two. Wide, bold stripes across narrow shoulders will make a person appear to have broader shoulders. A girl with wide hips should not choose horizontally striped skirts. Her hips will seem even wider. Overweight people will seem even larger in bold plaids than in clothes with narrow, vertical stripes.



JOHN SENZER FOR THE FASHION INSTITUTE OF TECHNOLOGY

3-7 *The large, bold, horizontal design in this sweater draws your attention.*

Diagonal lines slant. They suggest activity and excitement, 3-9. They are not common, so they attract attention. If the diagonal lines are nearly vertical, they will make you look taller. If they are mostly horizontal, they will make you look wider or larger. However, the effect is not as strong as with vertical or horizontal lines.

Curved lines are lines that are bent gently. They create the appearance of softness and relaxation. Rolled collars on sweaters and round collars on garments are popular uses of curved lines. Curved lines can also be seen in pockets, trims, necklines, scarves, and caps or hats.

Different effects can be achieved by using curved lines. A person's square face will look less square with a rounded neckline. A long, thin neck will seem to become shorter if a person wears a turtle-



THE McCALL PATTERN COMPANY

3-9 *Diagonal lines attract attention to this casual shirt worn with jeans.*



SPIEGEL INC

3-8 *Horizontal stripes can make shoulders look broader.*

neck or rolled neck sweater. If you have a pointed chin, a V-neckline will only make it seem more pointed. A high or round neckline would be better.

Form

Form is the shape of an object. If an object has height, weight, or depth, it has form. Form is the enclosed area of a design.

If you stand in front of a lighted area near a wall, you can see your form on the wall as a shadow. This form or shape is called your silhouette. When you are seen from a distance, people see only your outline or shape. Along with your body shape, the clothes you are wearing help to create this form. See 3-10.

A form or silhouette that will be in fashion from year to year is determined by



3-10 Notice the various forms created by clothing.

many factors. One year the form may be a “natural” look. Clothes may follow the shape of the body. Another year, padded shoulders, which give a squared form, may be popular. Some clothes, such as a full skirt or pants with wide legs, produce a full form. These clothes would make a person look larger and heavier. Clothes having a tubular form, such as a straight dress without a belt, straight-leg pants, or a suit would tend to make a person look taller and thinner, 3-11. Clothes that produce a bell-shaped form look good on most people. Flared skirts and pants are examples of bell forms.

Texture

How a fabric feels and how it looks on the surface is called *texture*. The yarn, weave, and finish determine a fabric’s texture. Some words used to describe texture

are smooth, dull, rough, shiny, nubby, soft, fuzzy, delicate, crisp, pebbly, scratchy, swishy, and shaggy. See 3-12.

How can texture help you to play-up and play-down your size and features? Fuzzy, loopy, or shaggy surfaces are usually thicker and bulkier. They seem large. This will add visual size to the area where you wear them. A bulky sweater will make you look larger in the shoulders than a smooth one.

Fabrics with a smooth texture will make you appear smaller than you are. However, if the design is large and bold, the texture will be secondary. The design will be more important than the texture.

Shiny textures tend to add weight or size because shiny surfaces reflect light. Dull surfaces absorb light. Suppose you wore a blouse that has a shiny texture. Another day you wore the same style blouse in a dull texture. You would look larger in the shiny one.

When choosing a texture, consider where it is to be worn. Different textures are suitable for different activities. Smooth, silky, airy fabrics are better for social events than for school. Bulky garments are great for school and outdoor activities.

Combinations of textures are interesting. A bulky sweater to emphasize the shoulders can be worn with smooth-textured slacks to de-emphasize hips or seat. Decide which textures look best on you.

PRINCIPLES OF DESIGN

The *principles of design* are guides that tell you how the elements of design should be combined. Balance, proportion, rhythm, and emphasis are the principles of design. When these are used correctly, harmony, the goal of design, is achieved.

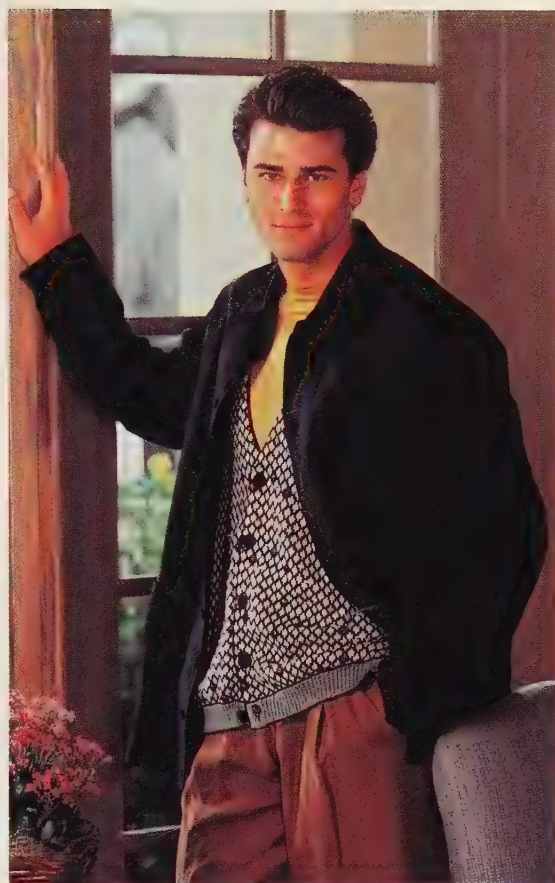
The principles of design are used in both creating and judging a design. They serve as guides in using the design elements of color, form, line, and texture. These principles are kept in mind and used by designers as they work.

By learning how to use each design principle, you will be able to analyze the design of the clothing you select. You will be able to see why you should avoid a particular combination of colors, lines, or textures and why others would be more pleasing.



BUTTERICK COMPANY, INC

3-11 This straight dress has a tubular form. The long, vertical look creates a feeling of height and slenderness.



THE FASHION ASSOCIATION

3-12 How many different textures do you see in this outfit?

Balance

When you look at something that has *balance*, you will see that objects are arranged in an even, pleasing way. There is equal visual weight on both sides. There is equal balance on either side of an imaginary center line. Balance can be created in garments and outfits by using the elements of design. Color, line, form, or texture can be used separately or together to achieve balance.

One way to balance a garment is to have it exactly alike on both sides. This equal

balance is called *formal balance*, or symmetrical balance. See 3-13. Formal balance is easy to achieve. It can be seen in many garments and outfits. Many of your shirts, blouses, pants, jackets, coats, and sweaters have formal balance; one side is identical to the other side. Skirts with the same number of pleats on each side of the center have formal balance. A shirt with an identical breast pocket on each side also has formal balance.

Balance can also be achieved when the design elements are different on both sides. This unequal kind of balance is called *informal balance* or asymmetrical balance.



THE McCALL PATTERN COMPANY

3-13 Formal balance can be seen in the design on this shirt. One side is identical to the other side.

See 3-14. Informal balance is not as easy to create as formal balance. But it is usually more interesting than formal balance. The sides are not alike, but neither side overpowers the other. With informal balance, there is less monotony, and the visual weight is still equal. Each side is different, but to the eye, the design appears to be balanced. A jacket with an off-center closing on one side balanced with a pocket on the other side is an example of informal balance.

Proportion

Proportion is the relationship between one part to another and of all the parts to the whole. This includes sizes, spaces, shapes, and visual weight. When an outfit has pleasing proportion, it looks right for the person wearing it.

Clothing and accessories should be in proportion to your size and body shape. If you have a small body shape or are short, you should probably stay away from styles that overpower you. Garments with huge pockets, big collars, large buttons, and wide lapels are not proportioned to your size. If your legs are short, a short jacket will make your legs look longer. A longer jacket would make your upper body seem longer and your legs shorter. A large plaid sports shirt would look just right for a tall, thin guy. But if a small, short guy wears it, it would seem out of proportion to his size.

When selecting accessories, keep proportion in mind. Accessories include handbags, shoes and boots, ties, belts, and jewelry. A large handbag could hold many items that you may like to carry with you. But it will look completely out of proportion to your size if you are a small-framed girl. Large plaids may be the latest thing



INTERNATIONAL WOOL SECRETARIAT

3-14 The design in this sweater is an example of informal balance. The design still appears balanced because the large dark circle is balanced by the dark color on the arms.

in jackets. However, consider the proportion of the plaid to your body size and shape before you buy such a jacket.

Uneven proportions are considered to be more interesting than even ones. See 3-15. When a jacket or shirt is exactly the same length as the skirt or pants length worn with it, the effect is uninteresting. Stripes on fabrics that are equal in width are not as interesting as those that vary in width. An

uneven number of buttons on a jacket or coat are more pleasing than an even number.

Combining two colors to wear together is another way to achieve pleasing proportions. A white sweater combined with navy blue slacks can divide the figure to create a nice appearance.

To decide what is good proportion, you will need to look at many garments and outfits. Looking at pictures in newspapers and magazines will give you practice. You can study your own clothes and the clothing you



SPIEGEL, INC

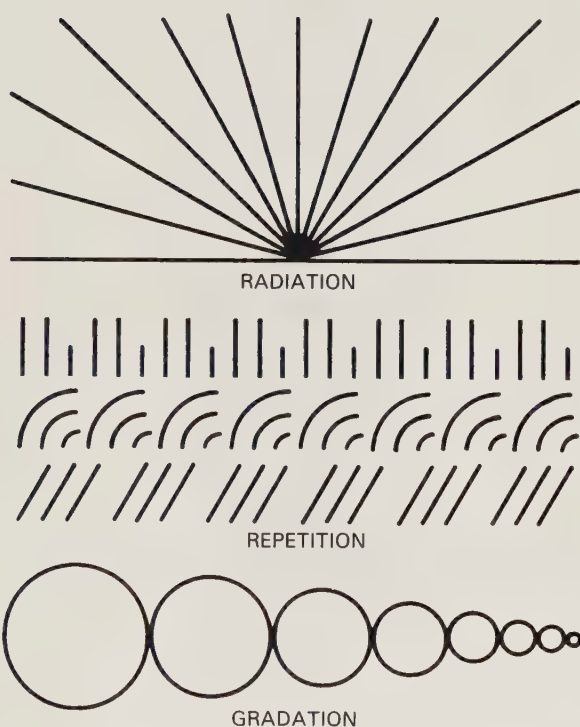
3-15 The long jacket with the short skirt, and an uneven number of rows of braid illustrate uneven proportions.

see others wear. With practice, you will be able to achieve the best proportion for you.

Rhythm

Rhythm in design is the feeling of movement created by line, shape, or color. It causes your eye to move smoothly from one part of the design to another. Each part of the design seems to belong to or go with another part.

Rhythm in design is somewhat like rhythm in music. In music, a sound is repeated, a regular beat is heard, and rhythm is produced. However, in design, we see rhythm rather than hear it. Rhythm in design is achieved by repetition, gradation, and radiation of colors, lines, and shapes as well as textures. See 3-16.



3-16 Rhythm can be achieved in a variety of ways.

You achieve rhythm through *repetition* when lines, colors, forms, or textures are repeated in a design. See 3-17. One color in a plaid may be selected as a trim or used in buttons. Because of the repetition of color, your eye is lead from one area to another. This creates rhythm and causes you to look at each part of the outfit.

When lines are repeated, rhythm is achieved. Curved pockets on a coat go with the curves of the coat hem or the rounded lapels. Contrasting trim on a jogging suit may be repeated on both the shirt sleeves and the legs of the pants.



BUTTERICK COMPANY, INC.

3-17 Repetition of the designs on the cuffs and coat openings as well as on the hat of this outfit create rhythm.

Rhythm can also be achieved by varying the sizes, colors, shapes, or lines in a design. This is rhythm through *gradation*. For instance, stripes may be close together at the top of a sweater and gradually become wider apart at the bottom. This can be from light to dark colors, small to large sizes, larger to smaller sizes, or from horizontal to vertical lines.

Another way to achieve rhythm in design is by *radiation*. Radiation occurs when lines extend outward from a central point. In clothing, gathers at the neckline of a sweater or dress create lines toward the waistline. Your eye is drawn toward the face because it is close to the center of interest or where the lines form.

When rhythm is achieved, your eye moves from one part to another part with a steady movement. This is why it is important for plaids and stripes to be matched at seams. Unmatched stripes and plaids can destroy the rhythm of an outfit. The uneven breaks in the fabric design would cause your eye to stop at that point.

Emphasis

Interesting designs have one part that stands out more than any other part. This is called the center of interest or *emphasis*. Your eye is drawn to this area and it is the first thing you see.

Emphasis should play-up your best features and draw attention away from your poorer features. Emphasis can be achieved with color, design details, texture, or accessories.

A contrasting belt would emphasize a waistline as in 3-18. Is that what you want to highlight? A thick middle with a protruding tummy may need to be camouflaged. A bright print tie at the neckline will

pull attention away from your body shape and to the neckline.

Emphasis can be added to a plain blouse and skirt or a shirt and pants with an accessory. A tie, pin, or neck jewelry can improve the looks of the outfit by providing a point of emphasis.

If you want to appear shorter, an area of emphasis at the waistline or hemline may do this. If you want to look taller, place the area of interest high on the body. This draws the eye upward instead of downward.



LANDS' END

3-18 The contrasting belt provides a point of emphasis on this dress. Attention is drawn to the waistline.

Contrasts in color, line, and texture can create emphasis. A red tie or bow can be a point of interest on a white shirt or blouse. Attention is drawn to your face. Lace, ruffles, and unusual shapes in buttons and trims attract attention to the areas in which they are placed.

ACHIEVING HARMONY

Harmony is achieved when all parts of a design look as if they belong together as in 3-19. The line, color, form, and texture should harmonize with each other. They also should enhance the coloring, body shape, and personality of the wearer. The design is harmonious when it is well balanced, has a sense of rhythm, and is in good proportion. Everything looks suited to the whole—there is a sense of unity.

All parts of an outfit should be considered when you are striving for harmony. Jeans and leather jackets go together. A leather jacket over a fancy party dress would be less harmonious. A plaid, cotton flannel sports shirt would look better with the collar open than with a necktie.

Accessories can help an outfit achieve harmony. Too many accessories can also spoil the effect. Repeating colors from a garment by adding a belt or jewelry can be pleasing. Guys and girls could wear boots, jeans, a western belt and shirt for a harmonious, casual look.

Just as harmony is the goal of good design, wearing garments and outfits that



MEN'S FASHION ASSOCIATION

3-19 When harmony is achieved, there is a sense of unity in a design.

make you look your best should be your goal. You can use your knowledge of the design elements and design principles to improve your good points. You will also be able to draw attention away from your less-than-perfect features. The bottom line is to select clothing that creates the best total look for you.

to know

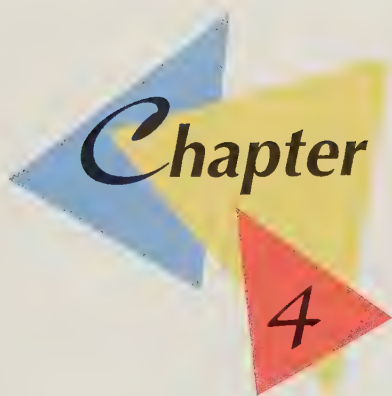
balance	line
design	principles of design
elements of design	proportion
emphasis	rhythm
form	texture
harmony	

to review

1. Name the elements of design.
2. List the four types of line used in design.
3. The shape of an object is its _____.
4. List 10 words to describe texture.
5. List the principles of design.
6. Explain the difference between formal and informal balance.
7. (True or False) It isn't necessary to keep proportion in mind when selecting accessories.
8. Give an example of how rhythm can be achieved in a garment.
9. What principle of design is created with a bright red tie or bow worn with a white shirt or blouse?
10. Harmony is the _____ of design.

to do

1. Plan a bulletin board entitled "Select the Right Designs for You." Use fabric swatches with various textures, lines, and colors. Group them according to different body shapes such as tall/thin, short/heavy, small-framed, large-framed, etc.
2. Collect as many fabric samples as possible of textures and designs. Describe each texture and design in class.
3. Collect pictures of clothing from magazines, newspapers, and catalogs. Mount pictures on notebook paper. Title the examples with the different principles of design. Comment as to whether you feel the examples are excellent, fair, or poor. Support your opinions.
4. Find examples of formal and informal balance in this textbook.
5. Find pictures of outfits or garments that show the design principle of emphasis. Identify the item of emphasis on each outfit.
6. Demonstrate the principle of proportion by having two students of different heights try on several sweaters of different lengths.
7. Assemble construction paper, crayons, and paint. Create a fabric design. Analyze the design. Ask class members for comments.
8. Collect 10 pictures of people in various outfits. Decide which outfits have harmony and which do not. Give reasons for your answers.



Chapter

4

Looking Good

After studying this chapter you will be able to

- discuss the factors involved in looking and feeling good.
- develop good grooming skills.
- practice good health habits.
- use the Food Guide Pyramid in making food choices.
- describe eating disorders.
- describe ways to maintain the proper body weight for your height and build.
- discuss the benefits of regular exercise, good posture, and adequate rest.

What features would you like to have? Big, beautiful eyes? A perfectly shaped nose? Ears that are not too large and do not stick out? If you have these features, you cannot feel too smug about them. You had nothing to do with getting them. They were all determined before you were born. It is easy to live with what you have, if you like it. The girl in 4-1 looks pretty happy with herself. However, most people would like to change something about their looks. Even people who are considered good-looking by their friends would make some changes if they could.

Everyone wants to look good. This trait is admired as much or more than beautiful features. You don't have to be born with good looks; you can work for them. See 4-2. Whether you like it or not, your looks affect and reflect everything about you. This includes your mood, ego, school work, and friends. If you know you look good, you feel good. Then you can forget about how you look and get on with other things.

If you were asked to select some well-groomed persons in your class, it would probably be easy. They could be either guys



4-1 You can look super in casual clothes. If you know you look good, you feel good about yourself.

TO SEW

or girls. They would look great—not necessarily beautiful or sensational—but great! They would have good posture. Their skin, hair, nails, and teeth would be clean. They would be wearing neat, appropriate clothes that “do something” for them. You might select persons who look like the teens in 4-3.

How do you get to be the person that everyone, including yourself, thinks looks great and well-groomed? You need to take an honest look at yourself. You have to recognize your good and weak points. Then you can build on the good ones and work to overcome the weaker ones.

BODY CLEANLINESS

Since the definition of *grooming* is “to take care of,” the first step in a good grooming program is to take care of



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4-2 You can look good when you have it all together—clothes, figure, hair, and complexion. Many parts of “good looks” can be achieved.



TO SEW

4-3 Clean clothes that fit well help you to look well-groomed. Personal cleanliness helps, too.

yourself. The best beauty treatments are good health habits. Good health and good looks go hand in hand. If you feel good, you will try harder to look good.

Your skin

When people look at you they see skin. They have to see it; it is on display. And you do have a lot of it! If you are of average size, your skin weighs about 8 lb. (3.6 kg). If you could spread it out flat, it would be about 18 sq. ft. (1.6 m²) in size. Your skin has many jobs. It helps keep

your body temperature at the proper level. It helps protect you from bacteria. It excretes (discharges) body wastes. Skin also constantly repairs itself without your help. Since skin is so important, it is to your advantage to take good care of it. You will learn about healthy skin in the next chapter.

Your daily bath

Taking good care of your skin means keeping it clean. A bath or shower is needed every day. All your efforts toward be-

ing well-groomed are wasted if you are not clean. Bathing keeps your skin pores open. If they are clogged, blemishes will result.

The method of bathing you use is a personal choice. You may like a shower, 4-4. It takes little time, and you can shampoo your hair at the same time. A relaxing bath may suit you. Perhaps you must take a sponge bath.

Conservation (saving natural resources) is important today in all areas of life. If you want to conserve hot water, use warm instead of hot water. In a shower, wet your body; then turn the water off. Rub briskly with washcloth and soap. Turn the water on again for rinsing. Take as little time as possible.

When taking a tub bath, use only a small amount of water. Soap your body, then rinse well by squeezing clean water over your body with your washcloth.

A sponge bath takes longer, but can be cleansing. Use warm water in a sink or large pan. Rub your body with a soapy washcloth. Rinse with clear water and dry.



EUROSPA BY FRIEDRICH GROHE

4-4 Hand-held showerheads are one way to take a shower.

Complete one area of your body before starting on another.

The purpose of any bath is to get clean. Every part of your body should receive individual attention. The folds and creases need special care, since perspiration and airborne dust accumulate in these areas. Particular attention should be given to the armpits, the toes, and the genital and anal areas. Use plenty of mild soap. Water alone will not wash away body oils, perspiration, and dirt. Remove all traces of soap to prevent your skin from becoming too dry.

Deodorants and antiperspirants

A daily bath does not guarantee you will be free of body odor. The most offensive odor comes from perspiration. To perspire is normal and natural. Perspiration removes body wastes through the pores of the skin. It also helps to regulate body temperature. Perspiration or sweat by itself is odorless. But when bacteria on the skin reacts with it, an unpleasant odor results. More bacteria is in a moist area than on dry skin. Therefore, the underarm area is the main source of body odors.

Many teens are bothered by a heavy flow of perspiration. When you become nervous, excited, or upset, it increases. You are aware of the circle of wetness on your clothes. This is often embarrassing.

To prevent odors from forming, use a good deodorant or an antiperspirant. When you are near others, you want to be free of body odor, 4-5.

A *deodorant* controls odor, but it allows you to perspire normally. It stops odor by killing bacteria on the skin. You may have to try several brands before you find one that is effective for you. If you perspire more than normal, the moisture will wash

away or dilute the deodorant, making it ineffective.

Antiperspirants may be the answer to the problem of excessive perspiration. They reduce the flow of moisture as well as odor. They contain a metallic salt that clogs the pores and prevents moisture from forming. Do not use them anywhere except under the arms. If a rash appears, stop using the antiperspirant. The brand may be too strong. Try other brands until you find the right one for you. You can buy deodorants and antiperspirants as spray-on, roll-on, stick, gel, cream, or powder. Many products are specially developed for men or women. Always follow the manufacturer's directions written on the package.

Deodorant soaps are available. If you are aware that you have an odor problem, you may need this type of soap. They remove odors better than regular soap. But the amount of perspiration is not reduced by using them.

Persons who have an offensive odor are seldom aware of it. No one will tell them. People just avoid being in their company. Have you ever heard someone say, "He's a great guy, but he has B.O."? If you are not sure of yourself, try a simple test. When you remove your shirt at night, smell the underarm area. You will know! Sometimes a person looks good, but has a body odor. If you cannot control perspiration by commercial products, see your doctor.



4-5 When you are close to someone, it is important that you are free of body odor.

GOOD HEALTH AND GOOD LOOKS

Being clean is important, but that is only one part of good grooming. You must learn to make the most of everything you have. You cannot change your height or bone structure. However, how your body looks and the way you wear your clothes is left completely up to you. The young woman in 4-6 has everything going for her: correct weight for her height; attractive clothes that fit well; a glowing complexion; clean, healthy hair; and good posture.

The foods you eat, your body weight, and the amount of exercise and sleep that you get affect your health and looks. Good looks begin with good health.

Eating right

The way you look and feel depends a great deal on the foods you eat. By eating the right foods, you will feel good and have more energy. When you eat the right foods, you are practicing good nutrition. Good *nutrition* means eating a variety of nourishing foods that will keep your body working properly. *Nutrients* are substances that you get from foods that help your body to grow and stay healthy. Nutrients include carbohydrates, proteins, fats, vitamins, minerals, and water. A well-balanced diet includes all of these nutrients.

The Food Guide Pyramid. The Food Guide Pyramid is a basic guide to help you eat a well-balanced diet. You can use the Food Guide Pyramid to help plan your meals and snacks. It is divided into five main food groups. These are bread, cereal, rice, and pasta; fruit; vegetables; meat, poultry, fish, dry beans, eggs and nuts, and milk, yogurt, and cheese. Try to eat the recommended number of servings from each of the groups daily. See 4-7. Fats, oils,



4-6 People look their best when they follow good grooming habits and good health habits.

and sweets appear at the tip of the Pyramid. These are foods such as soft drinks, candy, salad dressings, and butter. These foods may add variety to meals and snacks, but they have little nutritional value. They should not replace foods from the five main food groups in your diet.

Food Guide Pyramid A Guide to Daily Food Choices



4-7 The Food Guide Pyramid is a basic guide to daily food choices.

Snacks. Foods that are eaten between meals are called *snacks*. Choosing nutritious snacks is also a part of eating right. When planning snacks, avoid those that are high in sugar, salt, and fat. Instead, choose foods that are high in nutritional value. Healthy snacks can be easy and fun to prepare. You can create a variety of nutritious snacks. Some nutritious snacks are shown in 4-8.

Eating disorders. Abnormal eating behavior is an *eating disorder*. Anorexia nervosa and bulimia are both eating disorders that can cause serious health problems.

Anorexia nervosa is a disorder in which a person avoids eating. Some victims avoid food to the point of starvation. A person with anorexia nervosa has a distorted self-concept. A victim of this disorder feels fat no matter how thin he or she is.

Bulimia victims go on food binges. They eat large amounts of food. Then they get

rid of the food by vomiting or purging (using laxatives). As with anorexia nervosa, victims of bulimia always feel the need to be thinner.

Both of these disorders can cause serious health damage. Persons need medical care and psychological counseling in order to get well.

Your body weight

Your daily activities, your inherited physical characteristics, such as your height and build, and your eating habits determine your body weight.

Are you overweight? One of the big problems with some teens today is weighing too much for their body size. You should not worry if you weigh a pound or two more than you would like. However, if you have a lot of weight to lose, you should try to do something about it.

If you are overweight, you probably eat more food than you need for your lifestyle. Your daily activities are not enough to burn up or use all the calories food gives you. *Calories* are the units of energy or “body fuel” provided by the foods you eat. The number of calories that you need daily depends on your age, body size, rate of growth, and energy level.

Overeating is a habit that is difficult to break. You need willpower and determination. You have to resist snacks and some foods you like. Your eating habits are influenced by your family and friends. Unless they know that you are trying to develop new eating habits, they may make it difficult for you to break your old habits. They will still expect you to eat as you have in the past.

If you have a serious problem, you should consult your doctor. By testing, he

or she can tell if anything other than overeating is your problem. If a doctor or dietitian gives you a diet, stick to it.

One or two pounds of weight loss a week is a safe amount. Diets that cause faster weight loss are unsafe. After you finish with them, your weight often returns. This is discouraging. These are called “fad” or “crash” diets. Most are not medically approved and could result in other health problems. They tend to make many people nervous, tired, cranky, miserable, and depressed.

By reducing the amount of food you eat, you will lose weight slowly. Between-meal snacks are a good place to start cutting

down your calorie intake. Develop a realistic plan for weight loss and follow it carefully. Keep in mind the Food Guide Pyramid. Your weight loss will be permanent if you will form good health habits.

Being *underweight* can also be a problem. There are many reasons why teens are underweight. The most common are poor eating and health habits. Others could be nervousness and tension. The last two can either make you eat too often and too much, or not often enough. If you are seriously underweight, check with your doctor. He or she may find a cause that can be corrected medically. Think through a



4-8 Fruits make a great nutritious snack.

day's activities. Keep a list of the foods you eat. Compare these to see if you are eating enough for the energy you need. Then compare the list of foods you eat to the Food Guide Pyramid. Are you eating the right foods?

To gain weight, set up a plan and follow it daily. Eat foods that are high in calories. Instead of eating three times daily, eat five times whether you are hungry or not. Drink water or tea between meals rather than with your meal. Save the room for food! You can snack between meals, but try not to ruin your appetite.

Learn to relax! Do not get involved with problems that cause you to be nervous or emotional. This will rob your appetite, and it will interfere with good digestion. Schedule some time each day to relax. A short break after school would be good.



SPIEGEL, INC

4-9 Garments that fit loosely tend to make you appear larger. Use vivid and light colors.



QUICK SPORT

4-10 A daily exercise program helps teens feel energetic, healthy, and happy.

Wearing clothes to make you look larger may help you feel better, 4-9.

Exercise

Exercise is an activity performed for physical conditioning. Running, skipping, hopping, and jumping are all good forms of exercise. You learned years ago that regular exercise is important. You know that a good game of basketball, tennis, or softball is fun and good for your health. It exercises your lungs, strengthens your heart and other muscles, and helps your complexion. Both guys and girls need active sports for exercise. The teens shown in 4-10 probably exercise daily. They look healthy.

With so much time spent in a classroom, when is there time to exercise? You must plan your time. You do not want to overlook anything that will make you look and feel better.



THE FASHION ASSOCIATION

4-11 Golf is a fun way to exercise.

Perhaps you could substitute some activities for a few television programs. You could try playing golf, 4-11. Walking, tennis, dancing, swimming, and bicycling, 4-12, are good forms of exercise. You might invite a friend to go on a walk with you or, take your pet for a walk. If you walk outside, you will get fresh air that is good for your health, 4-13.



FROSTLINE KITS

4-12 Bicycling is a great form of exercise.



WISCONSIN TOURISM DEVELOPMENT

4-13 Hiking is great exercise and fun. You can improve your health while enjoying your friends, family, and enjoying nature.

Posture

Posture is the way the body is held when sitting, standing, and walking. There are many advantages for having good posture. Some of them are listed in 4-14. You can see how much better clothes fit when the wearer has good posture in 4-15.

Poor posture is an easy habit to develop. Usually you are not aware of poor posture until someone reminds you to “sit up straight,” “stop slouching,” or “hold your shoulders back.” It takes determination to achieve good posture, but the results are worth it.

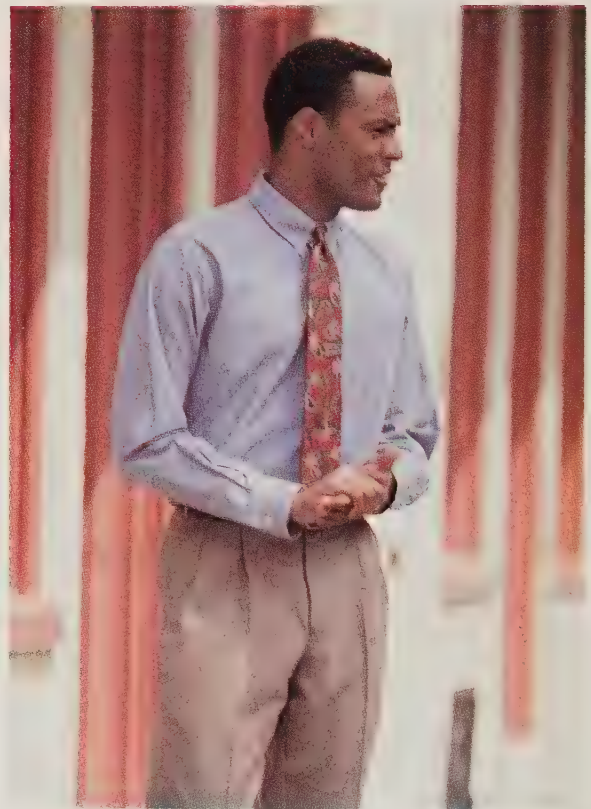
Have you ever thought of how much time you sit each day? You sit in classrooms most of the day. Lunch and supper take more sitting time. If you study or look at television in the evenings, you sit even more. You might sit in the position as the girl in 4-16. If you sit hunched over, you are curving your spine. Your lungs do not have room to breathe fully. This will tire you very quickly. Instead, try to keep the lower part of your back touching the chair. Keep both feet on the floor much of the

- You feel better.
- You appear taller and slimmer.
- Your clothes fit properly; you look smarter.
- It helps develop self-confidence.
- It improves body functioning.
- A sway back is not as noticeable.
- Your stomach does not protrude.
- Your chest is lifted, allowing deeper breathing.
- Round shoulders do not develop.
- It helps correct an awkward, clumsy walk.

4-14 *These are some of the advantages of good posture.*

time. Do not cross your legs above the knees since that can prevent good blood circulation. Ankle crossing is better. If you have developed poor sitting habits, try to change only one at a time. No one likes to sit looking stiff or uncomfortable. The right way to sit is easy, natural and comfortable.

Good posture shows in the way you walk, also. What is your impression of someone who shuffles his or her feet? Do you feel they have a “don’t care” attitude? If so, you could be completely wrong. It may just be a habit. Be sure you pick up your feet as you walk, or someone may get



LANDS' END

4-15 *Clothes look even better on someone who has good posture.*



4-16 Sitting in a slumped position is more tiring than sitting straight. Notice how this girl's head is out of line with her body.



4-17 Getting enough sleep at night is important if you want to look and feel your best during the day.

the wrong impression of you!

When walking, try to walk from the hips instead of the knees, which causes a bouncy, choppy, awkward gait. This keeps your body in balance. A smooth, graceful walk results. Test your balance by walking with a book on your head. Short persons should take shorter steps than tall ones for an attractive, easy walk. Some persons swing their hips or their arms too much when they walk. They look awkward and unnatural. Watch yourself in a mirror to see if you are doing the best you can do.

The easiest way to achieve a look of good posture is to try to sit and stand as tall as possible. When you slouch, you can look as if you weigh 5 lb. (2.25 kg) more than you really do. Hold your head erect and lift your chest. Keep your back straight, stomach in and hips tucked under. Now look at yourself in a full-length mirror. Can

you see the difference? With regular practice, you will see good results in a short time.

Sleep

To feel healthy, energetic, and happy, you must get enough sleep. Most teenagers need 8 to 10 hours nightly. You may need more or less than your friend needs, 4-17.

Lack of sleep can make you feel drowsy and lazy. You may not be able to stay awake during class. You will often feel irritable and tired. Your eyes may be red and puffy. Dark circles could appear under them.

Since sleep can help you look and feel better, it makes sense to get as much of it as you need. With careful planning, you can get enough sleep almost every night. Feeling great and looking good will make it worthwhile.

to know

antiperspirants	grooming
calories	nutrients
Food Guide Pyramid	nutrition
deodorants	overweight
eating disorder	posture
exercise	snacks
	underweight

to review

1. How do you feel when you know you look good?
2. A well-groomed person:
 - a. Is always beautiful.
 - b. Bathes twice a week.
 - c. Never has to exercise.
 - d. Has good posture.
3. A function of the skin is:
 - a. Regulation of body temperature.
 - b. Protection from bacteria.
 - c. Excretion of body wastes.
 - d. All of the above.
4. All your good-grooming efforts are wasted if you are not _____.
5. _____ contain a metallic salt that clogs the pores and prevents moisture from forming.
6. List the five main food groups from the Food Guide Pyramid and how many servings you should have from each group.
7. List six nutritious snacks.
8. A person trying to lose weight should:
 - a. Eat only snacks and skip all meals.
 - b. Follow a "crash" diet.
 - c. Try to lose only one or two pounds a week.
 - d. Ignore the Food Guide Pyramid; you can eat anything!

9. Persons trying to gain weight should:
 - a. Eat foods high in calories.
 - b. Eat only three times a day.
 - c. Drink lots of water at every meal.
 - d. Ignore the Food Guide Pyramid; they can eat anything!
10. What effect does poor posture have on the way clothes fit?
11. How can poor posture hinder good health?
12. Inadequate sleep will:
 - a. Make you feel drowsy and irritable.
 - b. Make your eyes look red and puffy.
 - c. Make it difficult for you to stay awake during class.
 - d. All of the above.

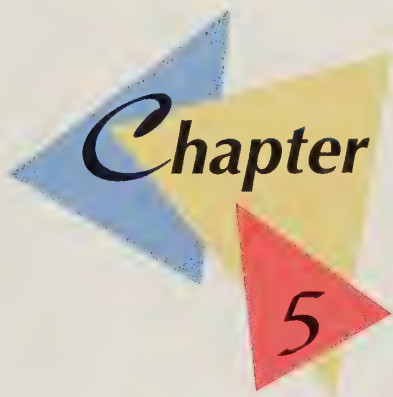
to do

1. Bulletin board idea: "LOOK GOOD." Write comments opposite letters as: Life is better if you like yourself. Once daily take a bath. Obey good health rules. Keep weight under control. Guard against lack of sleep. Outline a good grooming plan. Overcome bad habits. Dress appropriately and becomingly.
2. Try to find some resource persons, both male and female, who will speak on the importance of good grooming to get and keep a job.
3. Make a daily and weekly schedule of good grooming activities.
4. Discuss how your family and friends influence your eating habits.
5. Divide into small groups. Select one of the food groups from the Food Guide Pyramid and write a TV commercial to sell the food group to the public. Use creative ways, such as good snack ideas, to make the food group more appealing. Present your commercial to the class.



GETTYSBURG TRAVEL

Skiing is a form of exercise enjoyed by many people in the winter.



Healthy Skin

After studying this chapter you will be able to

- discuss the advantages of personalized skin care.
- list factors involved in skin problems.
- discuss guidelines to follow when selecting products to improve your appearance.
- describe the proper procedure to follow for shaving.
- discuss ways the sun affects your skin, and explain how to protect your skin from the sun.

If you have a smooth, trouble-free complexion, you are a lucky teen. Everyone wants to have a good complexion, 5-1. Few teens fall into that group. According to research, eight out of 10 teens in America have blemishes. One of their main concerns is caring for their complexions. The teen years and skin problems seem to go hand in hand.

PERSONALIZE YOUR SKIN-CARE PROGRAM

The best way to care for your skin is to keep it clean. Washing it in the morning and again at night may not be often enough. You may need to wash it as soon as you get home from school, too. The importance of keeping it clean cannot be overstressed. Use a mild soap to cleanse your skin. See 5-2.

Good health helps your skin look smooth and healthy. You need plenty of fresh air, exercise, and sleep. Proper foods in the right amounts are important, too. No one has proved that some foods cause facial blemishes. However, some teens report that

certain foods (dark-colored soft drinks, fried foods, and chocolate) affect their skin.

Doctors say that emotions have more effect on blemishes than food does. Have you had a flare-up just before exams or after a disagreement with a friend? Anger, tension, or nervousness could be the reason.



SIMPLICITY PATTERN CO

5-1 *A good complexion helps you look your best. Healthy skin is the first step to a clear complexion.*

No two people have skin exactly alike. You must find out how yours should be treated. What is good for one person could make another person's problem worse. Skin problems do not clear up simply by using a medicated product.

All people have one of three basic skin types: oily, dry, or combination. When you know your type, you will be able to set up your own skin-care program.



5-2 *Cleanliness is needed for a nice face. Wash your face at least twice a day.*

TYPES OF SKIN

Deciding what type of skin you have may be easy. If you have a problem with pimples, you have oily skin. If your skin is flaky and tight after washing, it is dry.

If you are unsure of your skin type, here is a simple test to help you decide. Wash your face and wait 15 minutes. Cut several one-inch squares of facial tissue. Touch one each to your forehead, nose, chin, and cheeks. Check each square for oil. If there is none on the tissue squares, your skin is dry. If all of the squares become slightly transparent, your skin is oily. (Your skin is normal if the tissue squares absorb only a little bit of oil.) If the tissues on your

cheeks are dry, but the ones on the T-zone (forehead, nose, and chin) are slightly transparent, you have combination skin. This type of skin is the most common.

Caring for your skin does not necessarily mean doing what your sister, brother, or best friend does. Plan and follow a routine suited to your own skin type.

Care of oily skin

Oily skin is the type most teenagers have. Glands are busy pumping too much oil to the skin surface. Flakiness around only the nose area is a sign of oily skin. This is really excess oil that has dried from exposure to air. If you have oily skin, your nose, forehead, and chin have an oily shine within an hour after washing. In the mornings, your entire face is oily. Blackheads may be seen on your nose and chin. Check other characteristics in 5-3.

Oil that sits on top of skin can clog skin pores. Clogged pores cause whiteheads and blackheads. The oil must be removed often and thoroughly to solve the problem. Wash

your face several times daily. Use a soap made for oily skin. It contains vegetable fats instead of synthetic or animal fats. Scrub briskly with a circular motion. Rinse first with warm water. Then rinse with cold water to close the pores. An astringent may be used to help tighten pores.

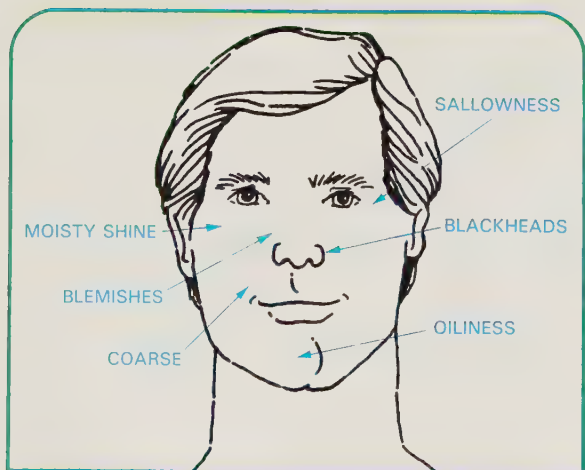
Use a grainy cleanser twice a week if needed, to help remove blackheads. If the skin becomes too red, use it less often.

Care of dry skin

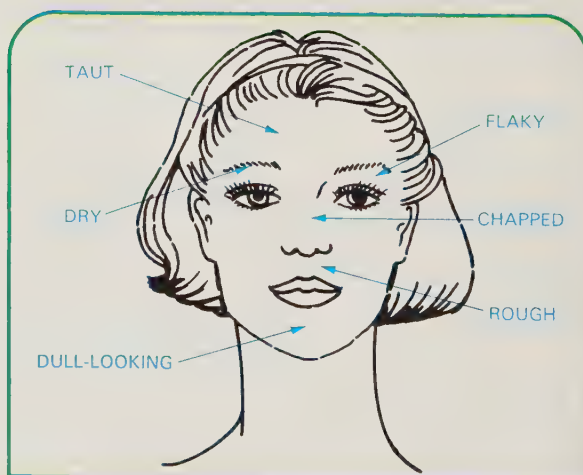
Dry skin does not affect most people until they are past 20. But some teenagers may show signs of dryness. Young men who have just started shaving may have dry skin areas.

If you have dry skin, flakiness will appear all over your face. Other symptoms are shown in 5-4. You do not have enough natural oil in your skin to hold moisture. Your main problem is to restore moisture to your tight, drawn skin. This is especially important after washing.

Keeping your skin clean is always basic



5-3 Problems develop for teens in the oily skin group. Frequent cleansing is necessary.



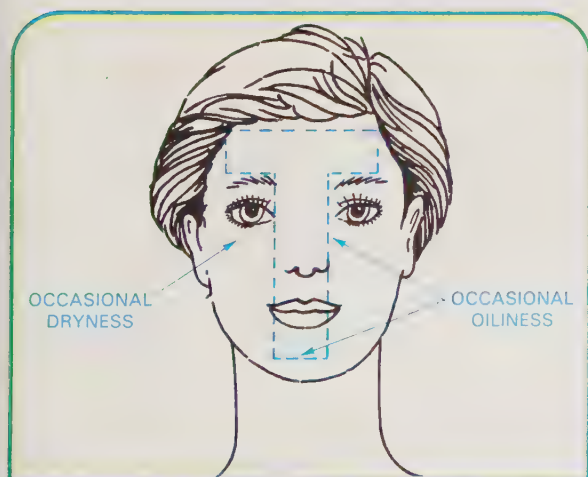
5-4 Note the characteristics of dry skin. Few teens have this problem.

to a good complexion. Wash at least twice daily. Use either a soap made for dry skin or a cleansing cream. Tone the skin with a freshener, not an astringent. This will also help remove the last traces of dirt. Use lotion or a moisturizer in the morning, at night, or anytime your skin feels dry. If you have time, try a weekly dry-skin treatment. First clean your face. Then spread a light film of oil-rich cream, lotion, or petroleum jelly over your face. Tissue off after 20 to 30 minutes.

If you have dry skin, the sun can be your enemy. Take it in short doses. It can dry your already dry skin to produce a leather-like texture. When you must spend time in the sun, protect your skin by using a good sunscreen or sunblock. (These will be described later in this chapter.)

Care of combination skin

Combination skins have oil in the “T-Zone” area as shown in 5-5. The forehead, nose, and chin areas are oily. The rest of



5-5 You may have a combination type of skin—part oily and part dry. The oily area is known as the “T-Zone.”

the face is dry.

Follow the guidelines for oily skin to treat your oily areas. Avoid scrubbing around the eyes and the cheeks. All dry areas will need moisture, as when caring for dry skin. Applying lotion or moisturizer at night will help.

Care of normal skin

A few lucky teens have no skin problems. Their complexions are clear, soft, and smooth. Their skin care routine may include a thorough cleansing in the morning and again at night. A protective moisturizer can prevent chapping during cold weather. Sunscreen or sunblock can protect the skin from sunburn.

ACNE

Few teens escape complexion problems. Problems usually begin around age 13 and disappear by age 20. Today we call any eruption (breaking out) of the skin *acne*. No one has died from this disease, but it makes most teens miserable at one time or another.

Three layers of skin

Look at the cross section of skin in 5-6. It is made of three layers:

1. The *epidermis* is the visible, outer layer. These cells die and flake (rub) off. New cells replace them. A dry, rough, scaly look appears if the skin is not kept clean. Cells in the epidermis contain pigments which give skin its color.
2. The *dermis* is where the new skin develops. It is an elastic tissue that allows the skin to move. It has a rich supply of nerves and blood vessels.

3. The *subcutaneous tissue* is like a cushion with fat cells, veins, and arteries.

The sebaceous (oil) glands, sweat glands, and hair follicles are in the lower levels of skin. (Hair follicles are the canals or spaces in which hair grows.) They are surrounded by nerves, blood vessels, and fat cells. They all work together in a complex system. If anything goes wrong in the system, you could get acne.

One cause is heredity

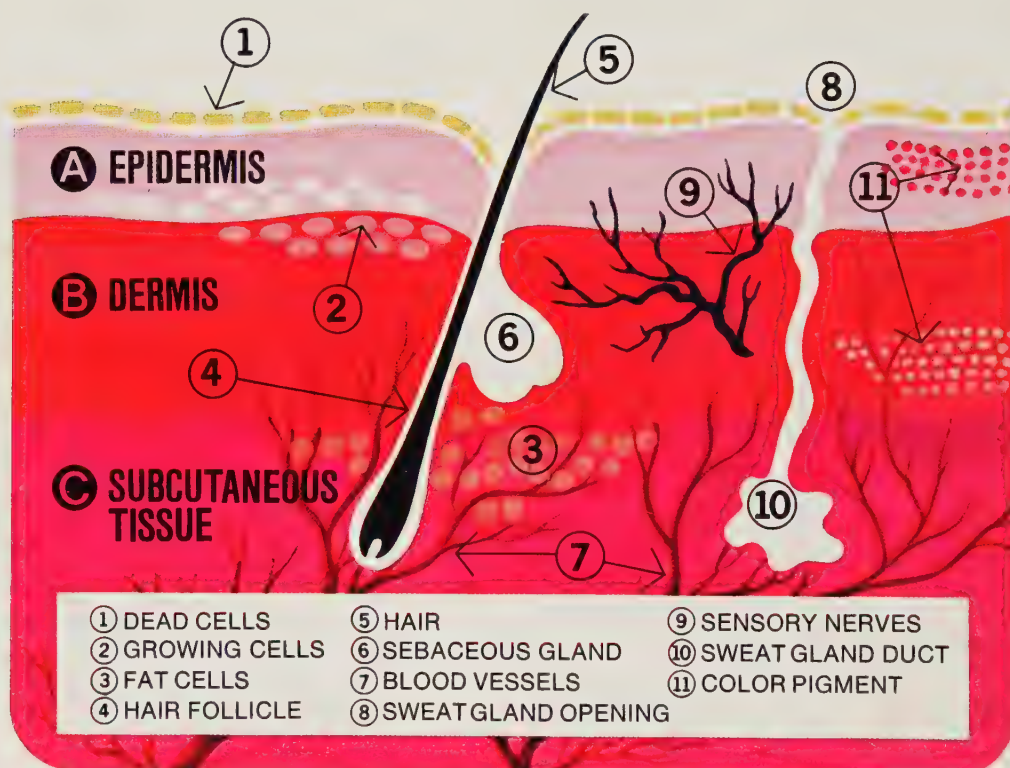
Doctors know that heredity is one cause of acne. You can inherit a tendency to get acne just as you inherit the color of your

eyes or the shape of your nose. Large oil glands are the “bad guys.” You have to have oil on your skin to have acne. Sensitive skin is also likely to develop acne. So if you inherited large sebaceous glands and sensitive skin, you will probably get acne.

Hormones are another cause

Acne is a normal growth disease in young teens. During the teen years there are rapid changes in body chemistry and an increase in hormone development. These changes create a hormone imbalance.

Certain hormones cause the oil glands to make more oil. They also reduce the “flaking off” of the dead cells, so the cells build



CARSON CHEMICAL CO.

5-6 The skin is a complex system. It has three layers: epidermis, dermis, and subcutaneous tissue.

up. This clogs the hair follicle opening, making the oil pressure increase. A whitehead appears.

When the cell over the whitehead flakes off, it comes in contact with air. Air (not dirt) turns it dark, and it becomes a blackhead. During this time, oil is still building up behind the blackheads, injuring cells around the hair follicles. Infection develops, and pus forms. A big pimple is born!

Help for the troubled

There are three degrees of acne. The mildest and most common form is oily skin and whiteheads. Next is the pimple. The most severe degree of acne is the *cyst*. This is a hard bump under the skin which results from an infection in deep skin tissue. If scars appear after cysts go away, they will stay there.

You should not try to treat a cyst at home. Whenever a severe case of acne or cysts develops, you should visit a skin specialist or *dermatologist*. Dermatologists cannot cure acne, but they can help control it. New, successful treatments are possible.

Since there are many forms of acne, there are many treatments. The dermatologist will give you details on how to care for your particular condition and type of skin. If yours is supersensitive, it may need special care. You may be given antibiotics, vitamins, X rays, or other treatments if you have many infected cysts.

A medicated soap and a drying preparation may be prescribed for you. They help in the fight against oily skin and acne. Medicated soap helps prevent further spread of bacteria on the surface of the

skin. Drying lotion dries the eruptions and absorbs some oil.

You can buy medicated lotion without a prescription from your doctor. It helps make pimples disappear faster. A flesh-colored lotion helps cover the redness.

Dermatologists warn patients to keep friction and pressure away from infected areas. They could cause additional pimples. Football players have more acne on their shoulders where shoulder pads have pressed. Tennis players who wear sweatbands on their foreheads can find more acne there. Resting your chin or the side of your face in your hand while reading can sprout a new crop. Even oily hair that touches your face (especially the forehead) can cause blemishes.

Do not pick or squeeze pimples. You can aggravate them (make them worse). They could get bigger and have a better chance of leaving a scar.

When a flare-up dies down, there is often redness for months. Remember, the acne patient has sensitive skin!

COSMETICS

Cosmetics are products that are used to improve or enhance your appearance. There are fashions and fads in cosmetics as in clothing or hairstyles. For example, one season bright-colored lipstick is popular. The next season a no-lipstick look could be the fashion. But in any fashion season, makeup should be used to enhance beauty as in 5-7.

Easy does it

There is something attractive about everyone. Young people have a lot of natural beauty, so the natural look is best



5-7 *Makeup should enhance your beauty, not cover it.*

for most teens. The secret to natural makeup is highlighting rather than covering. Many girls even have enough natural color that they do not need makeup at all. If makeup is used, a “played-down” look is best. Blemished skin looks best when a light touch is used.

Cleanliness is the first step in using any makeup. When you cover dirt or old makeup, you are asking for complexion problems. Always remove makeup before going to sleep at night. Your skin, not your makeup, allows you to paint a pretty picture. Study 5-8 to learn how to scrub your face. The kind of cleanser you use to keep your skin clean and healthy depends on your type of skin. All complexions should be rinsed several times with warm water. A final cool water rinse should be followed by patting the skin dry instead of rubbing.



5-8 *Always scrub the forehead, cheeks, and jaw in a circular motion. Over the eyes, move outward. Under the eyes, move inward to the bridge of the nose. The nose is always a problem area for oils, so scrub gently, but thoroughly, in both directions.*

A hand mirror as in 5-9 is a good investment for everyone. It is not expensive. With it, you can see how to apply all of your makeup evenly and smoothly.

There are many types of mirrors. Some people have lighted mirrors. A magnifying mirror can help all teens—male and female. It is easy to check the cleanliness of your scalp or complexion with these mirrors.

What to buy

Analyze your type of skin, skin coloring, and features before buying cosmetics. Many brands are available in department stores, shops, and drug stores. Cosmetic firms train salespeople. They can help you choose products for your skin type, 5-10. Their job is to help you, but also to sell. Take care that you do not buy more items than you need. You should know about



5-9 A hand mirror is a good investment for anyone. Some have a regular mirror on one side, and a magnifying mirror on the other.



5-10 Many cosmetic departments have trained salespeople to help you make selections.

skin and skin products so that you and the salesperson can make a wise choice.

Choose your *cover-up lotion* or *makeup base* to match your skin tone as the girls did in 5-11. There should not be a line to show where you started or stopped using it. If you have oily skin, you should use water-based makeup. There is too much oil on your skin already. You do not want to add more. You need a prescription to buy some types, but you can buy other brands without seeing your dermatologist. The medicated variety helps to control bacteria. Girls call this makeup base. Guys refer to it as a cover-up lotion. If you have blemishes, a light covering of a medicated product will look nice. Thick layers just draw attention to your problem.

If you have dry skin, a moisturizer that contains oil would be better for you.

Blusher adds color to accent the cheekbones. For some seasons the trend will be to wear a brighter blusher. Then the trend might turn toward wearing no blusher at all. Blushers are available in gels, creams, and powders. Some people prefer to use a touch of lipstick. It can be smoothed easily.



5-11 There are makeup bases and cover-up lotions to match all skin tones. Choose one that blends well so it cannot be seen at the jawline.



5-12 *Decision-making hits a high point when you are shopping for makeup.*

This assures the same color for each. You can choose the type and color that is best for you.

Lipstick colors come and go, too. There are plenty to choose from as shown in 5-12. A clear gloss looks good on girls with lots of natural color.

Sometimes the chemistry of your body reacts with the ingredients in a lipstick. You may look in a mirror and find that your pale pink lipstick has turned bright red! This change is not harmful, but it is annoying. A trained salesperson can help you choose a lipstick that will be good for you.

Eye makeup is fashionable from season to season. It can make eyes seem larger and brighter. Look in fashion magazines to see what colors are best for your eye and skin color. If you use mascara, use it sparingly, or it will "clump" on your lashes. Your eyebrows may need shaping. Tweeze only

the excess hairs below the brow line, keeping the natural curve. Eyebrows grow back very slowly!

When you shop for cosmetics, remember that the most expensive product is not always the best. If a new fad or fashion does nothing for you, stop using it. Search for the style that will make you look super.

SHAVING

Shaving improves both appearance and cleanliness. Young men's facial hair begins to darken and become coarse as they enter their teens. This happens at different ages. When it does, they should begin to shave. Girls may want to shave legs and armpits. In any case, you will want to talk with a parent or older person before you start.

Take care not to harm your skin when you shave. Skin is sensitive, especially if it is blemished or dry. Young men should soften hair first by applying a cream or lather. These preparations have lubricants and other ingredients that soothe and protect the skin.

Use short, careful strokes with a sharp blade when shaving, 5-13. Try to shave in the same direction as the hair grows. Shaving against the growth lifts the hair and small sections of skin. The result may be ingrown hair and razor rash. Both can be painful.

When you have finished shaving, rinse carefully to remove all traces of shaving cream and hair. Then apply an after-shave lotion or a skin balm to soothe the freshly shaved skin.

Before shaving armpits and legs, girls should moisten their skin with shaving cream or water. Take short strokes, using sharp blades. You should apply a mois-



5-13 *Safety razors are available with replaceable blades.*



TO SEW

5-14 *If you spend time in the sun, keep your skin healthy by protecting it from the sun's rays.*

turizing cream or lotion after shaving to leave your skin soft and smooth.

Some girls prefer to use depilatories to remove unwanted hair. The chemicals in depilatories dissolve hair so it can be rinsed away. Several brands are available. Be sure to follow the directions given on the package.

Electric shavers can be used by both men and women. They may be better for sensitive skin. They are more expensive than safety razors. There are many models

available. Some will trim sideburns neatly. Others, made for women, can be adjusted to shave both armpits and legs. You may want to apply a pre-shave lotion to prepare you skin before shaving. When you finish, wash with hot, then cold water. Then apply an aftershave lotion or cream.

YOUR SKIN AND THE SUN

Most people enjoy spending time in the sun, 5-14. They enjoy working outside,

playing outside, or just sitting outside and reading a book. The sunshine feels good. Some people spend as much time as possible in the sun to get a golden tan. They think that a tan looks beautiful and makes them look healthy.

Studies show that the sun gives off ultra-violet rays that can cause permanent damage to the skin. Exposure to these rays can lead to dry, wrinkled, prematurely aged skin, and skin cancer.

Not everyone is equally susceptible to skin damage caused by the sun. Different types of skin react differently to the sun's rays. For instance, you may tan easily and never seem to get sunburned. While your friend, who has fair skin, never tans and gets sunburned after just 10 to 15 minutes in the sun. Such people are at the greatest risk of developing dry, wrinkled skin, freckles, or skin cancer. Other people usually burn but finally acquire a tan. No one, not even someone with the darkest black skin, is immune to sunburn, premature aging of the skin, or skin cancer.

Sunscreens and sunblocks are available to help prevent skin damage from the sun. A *sunscreen* allows your skin to tan, but protects it from sunburn. Sunscreens are rated as to the degree of protection. The higher the Sun Protection Factor (SPF) number marked on a product, the more protection you will receive. Products marked *SPF 15* or greater are best. *Sunblocks* prevent tanning and burning. To be effective, apply sunscreens or sunblocks before you go out in the sun. Apply again after washing, swimming, or heavy sweating. A sunscreen or sunblock should be used by everyone who spends time in the sun, regardless of skin type. Some tips for protecting your skin are given in 5-15.

PROTECTING YOUR SKIN FROM THE SUN

- Avoid exposure to the sun between the hours of 10:00 a.m. and 3:00 p.m. If you must be in the sun then, upgrade your sunscreen to a higher SPF.
- Use a sunscreen with a high SPF on sensitive areas such as the face, neck, shoulders, bathing suit lines, tops of feet, inside elbows, backs of knees, and ears.
- Lips need extra protection.
- Apply sunscreen to clean, dry skin before going out into the sun.
- Reapply sunscreen after swimming, washing, or heavy sweating.
- If you are taking medication, it may chemically alter your skin's tolerance to the sun. You may need to use a sunscreen with a high SPF number.
- Wear clothing like hats and long-sleeved shirts that keep your skin covered.

5-15 *To keep your skin healthy, avoid overexposure to the sun.*



Proper care of skin during teen years will result in healthy skin later in life.

to know

acne	epidermis
cosmetics	subcutaneous tissue
dermatologist	sunblock
dermis	sunscreen

to review

1. What is one main concern of most teens?
2. List the three types of skin.
3. _____ is any eruption of the skin.
4. Two causes of acne are _____ and _____.
5. List the correct order of these statements.
 - a. A whitehead appears.
 - b. Dead cells build up.
 - c. Hormones cause oil glands to make more oil. They also prevent dead cells from "flaking off."
 - d. The hair follicle opening is clogged.
 - e. The oil pressure builds up.
6. A blackhead:
 - a. Forms before a whitehead.
 - b. Is dark because it is dirty.
 - c. Turned dark when it came in contact with air.
 - d. Forms after a pimple.
7. The most severe degree of acne is:
 - a. A cyst.
 - b. A pimple.
 - c. Whiteheads and oily skin.
8. Can a dermatologist cure acne?
9. Why should pimples never be picked or squeezed?
10. If you have oily skin, you should use (water-based or oil-based) makeup.
11. Why does makeup change color on some individuals?
12. People shave to improve both _____ and _____.

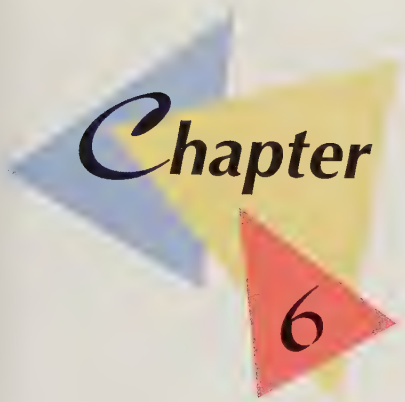
13. List two ways overexposure to the sun's rays can affect a person's skin.
14. Which of the following statements is true regarding exposure to the sun?
 - a. Your lips are the least sensitive to the sun.
 - b. Limit your sun exposure to between the hours of 10:00 a.m. and 3:00 p.m.
 - c. Reapply sunscreen after working out in the sun and you sweat heavily.
 - d. Wear clothing to protect against the sun only when the temperature is above 85°F.

to do

1. Invite a dermatologist to speak to your class about acne.
2. Ask a representative of a cosmetic firm to give a demonstration of proper application of makeup.
3. Demonstrate the proper motions to scrub your face.
4. Prepare a bulletin board with the caption, "Face Up To Beauty." Mount pictures of attractive persons. List guides to a better complexion such as cleanliness, proper diet, exercise, fresh air, sleep, etc.
5. Draw a sketch of a cross section of skin. Label each part. Explain how acne develops.
6. Bring to class advertisements of cosmetics. Discuss the slogans and statements made. Have the class decide if they are accurate.
7. Write slogans for a grooming product of your choice. Defend them in terms of truthfulness and customer appeal.
8. Write phrases that are related to good grooming. Begin each with a different letter of the alphabet. Example: Avoid hard scrubbing around the eyes. Brushes remove dust and distribute oil to hair, etc. Give your list to your teacher. A master list can be made for the school paper.



A friendly smile and good grooming can help you achieve an attractive appearance.



Chapter

6

Taking Care of Yourself

After studying this chapter you will be able to

- describe various types of corrective lenses and discuss how to care for them.
- practice good dental hygiene habits.
- list the steps involved in a manicure and a pedicure.
- identify foot problems and their solutions.

Your eyes, teeth, hands, and feet are the only ones you will ever have. They deserve some special care. Do you need corrective lenses? Which kind would you prefer? Is your smile as bright as it should be? How do you give yourself a manicure or a pedicure? Can you recognize foot problems? Do you know how to cure them? This chapter will help you answer these questions.

THE EYES HAVE IT

About one-third of all teenagers in America today wear some form of corrective lenses. (Eyeglasses and contact lenses are *corrective lenses*.) When you are told you need them, many questions pop into your mind. Why do I need them? How will I look with glasses—better or worse? Should I ask for contact lenses? Are soft contact lenses better for me?

Why do I need corrective lenses?

There is no such thing as perfect eyesight. Even people with 20/20 vision do not see perfectly. If you have 20/20 vision, you can

see at 20 ft. what a person with average vision sees at the same distance. If you can see at 20 ft. what the average person can see at 40, 60, or 80 ft., your vision is 20/40, 20/60, or 20/80. In these cases, you may need corrective lenses.

Corrective lenses cannot cure poor eyesight. But they do help you to see better. People who can help you with eye care have three different titles. See 6-1 to see who does what.

When you have trouble seeing clearly, you try harder. This injures your eyes, and you develop *eyestrain*. Your eyes may be tired. They may burn, itch, ache, and look red. Your eyelids may feel puffy or grainy on the inside.

There are often other problems when you make your eyes work too hard. Repeated headaches, having a hard time keeping your mind on your work, tension, or nervousness may result. If these symptoms sound familiar, you probably need glasses.

If you are *nearsighted*, you can see things that are near you, but you cannot see things clearly from a distance. Does the writing on the chalkboard look blurred when you sit in the back of the classroom? Do you find yourself straining, squinting, and frowning in order to see? If so, you should have your eyes checked. You are probably nearsighted.

The opposite problem is being *farsighted*. If you are farsighted, you can see things that are far away from you. You have trouble seeing at close range. As people grow older, they often become more farsighted.

Eyeglasses

Many teenagers wear eyeglasses. Choosing the type and style of frame is a big deci-

sion. It may be difficult to decide which pair is the best and most comfortable for you. The basic rule is to select glasses that are right for you. Keep in mind your personality, individuality, and good looks. Never select frames because they look good on one of your friends. A “copycat” selection can mean that your face and your glasses will not look good together.

Do not be rushed into a careless decision. Take your time and try many styles. Study the frame shapes in 6-2. Do you know which ones would look best on you?

Some guides that may help you decide include:

1. Tall teens and those with fuller faces can wear the super-size ones better than a small person.
2. Your cheeks should never touch the frames, even when you smile.
3. If you are big-boned, you can wear chunky shapes well.
4. A person with a long nose should choose frames with a thick, low bridge (the connecting piece across the nose).
5. Small noses look best with a small, narrow bridge.

The frame has to fit well, or it will bother you. If the side-pieces or bows are too short or too long, opticians can adjust them. If your glasses slide down your nose, the bows may be too long. But sometimes the shape of a nose makes it impossible to wear certain styles comfortably. Be sure the frames you choose will fit your facial features.

A law requires that lenses be heat-treated, which strengthens the glass. It is “impact resistant.” This means that if the lenses do break, the pieces will have blunt edges.

Plastic lenses are more expensive and

Opticians grind lenses according to the prescription given to them. After you select the frames, they put the lenses in them and fit the glasses to you.

Optometrists examine your eyes for vision problems. This includes a testing session. They can prescribe eyeglasses or contact lenses. If you have an eye disease, they can spot it but cannot treat it.

Ophthalmologists (sometimes called oculists) are physicians. They specialize in eye care. All defects, disorders, and diseases come under their care. They can also perform eye surgery.

6-1 Who's who in eye care.

lighter in weight than glass ones. They are often recommended for persons with thick, heavy lenses. A scratch resistant finish is often added.

Take care of your eyeglasses, neither glass nor plastic lenses are damage proof! Do not wear them on top of your head since the bows could stretch. Use both hands when you put glasses on or take them off. This will also help keep them in shape. When you lay your glasses down, be sure the lenses are facing upward. Dust can scratch them.



Heart-Shaped

Heart-shaped or triangle faces look best with delicate frames. Aviator styles are a good choice.



Square

If your face is square, avoid frames with square lines. Look for "softer" lines such as round or oval shapes.



Round

Those with round faces should seek angular shapes such as squares and rectangles. The upper rim should barely cover the eyebrow so most of the forehead shows.



Oval

Persons with oval faces can wear almost any shape. A straight lower rim helps shorten a long face.

CHICAGO TRIBUNE, ILLUSTRATIONS BY TOM HEINZ

6-2 Choose frame shapes to fit your facial features.

Contact lenses

The most common reason for buying contact lenses is to improve appearance. *Contact lenses* are vision correction devices that are worn directly on the eye. If you need corrective lenses and think you look better without glasses, you should consider buying them. They could be a big boost to your self-concept.

Some people get contact lenses for convenience. There are many times when eye glasses are a bother. Walking in a rainstorm, looking in a microscope, and playing football are only a few of them.

Contact lenses can be hard or soft. Some need to be removed daily for cleaning while others are extended-wear lenses. Your doctor will be able to recommend the type of contact lenses that is right for you.

All contacts are made of thin porous plastic. They are shaped to fit over the surface of the eyeball. The surface of the eyeball has no blood supply to furnish oxygen. It depends on exposure to oxygen in the air to keep the eye healthy.

It is sometimes difficult to adjust to contact lenses. Some persons try and give up. At first, a "beginner's schedule" of wearing them for short periods of time is followed. Persons may blink too often, tilt their head, and have tears. But after two to four weeks, most people are comfortable with contact lenses.

Some people with hard contact lenses will always be uncomfortable in smoke-filled rooms. They may also have problems when they have a cold or hay fever. But many people without contact lenses have eye trouble under those conditions, too. The degree of sensitivity depends on the person.

Contact lenses are safe if you follow your

doctor's instructions carefully. Your hands should be clean when you insert or remove them from your eyes. If you drop a lens, moisten your fingertip and gently touch the lens surface. Do not use sharp objects to pick it up. Never use saliva to wet your lenses. It may irritate your eyes or blur your vision. Instead, use the wetting and soaking solutions recommended by your doctor.

Hard contact lenses are thin plastic discs. The shape of the discs is very important. The curve on the inside fits the surface of the eyeball. The outside is shaped to correct and improve vision.

The first contact lenses were very hard. That caused people to have problems adjusting to them. No oxygen could get to the eyes except when the lenses were off of the eyes. Today, hard contact lenses are more comfortable because new materials have been developed for them. Hard contact lenses are often called "gas-permeable" lenses. This is because they let some oxygen and carbon dioxide (which are gases) get to the surface of the eyeball. This lets the eyes "breathe" and stay healthy.

People who wear hard contact lenses may need to adjust to them by going through a breaking-in period. The lenses are worn for short periods of time at first. Then the time is increased until they can be worn for 12 to 14 hours at a time. Once you begin wearing them, they should be worn every day. If you stop wearing them for a few days, you must repeat the breaking-in period again.

Soft contact lenses, 6-3, are clear discs made from a water-absorbing plastic to correct faulty vision. They are soft and flexible when they are either in your eye or stored in a saline (salty) solution. When they become dry, they are hard and brittle.



BAUSCH & LOMB

6-3 *Soft contact lenses are made from a water-absorbing plastic material. They adjust to fit your eye.*

Soft contact lenses mold themselves to the shape of the eyeball. Therefore, no dust particles can get between the lens and the eye. This prevents scratches to the eye.

Adjusting to soft contact lenses is easier than adjusting to hard ones. In some places, you can get soft lenses in one visit to the optometrist. Your examination and fitting are done the same day. A checkup in a week or so is important.

Soft contact lenses may sound as if they are problem-free and great for anyone. This is not true. You cannot wear them if you have an eye inflammation or if you do not have enough tears. The natural flow of tears keeps them soft while you wear them. And you cannot wear them if your eyeballs are insensitive (without much feeling). If the lenses became damaged, you would not be aware of it.

Soft contact lenses need more care than hard ones. Many people find caring for them too much trouble. They have to be cleaned every night. They must be stored in a special container like the one in 6-4. If they become dry, they will be damaged or split, and will have to be replaced.

Getting your money's worth

Higher prices can mean many things: better services, insurance costs, or better quality in the product itself. Be sure you know what "extras" are included in the price you pay.

Beware of low-cost glasses. They may look like a good buy, but quality and service have probably been reduced. Bargain houses buy lenses in bulk. Some may be imperfect. Lenses that are less than perfect are not good for your eyes.



6-4 *When soft contact lenses are not in your eyes, they must be stored in a special container. There are separate sections for the left and right lenses since each eye could need a different correction.*

The type of frame affects the price of your glasses. Usually larger frames cost more. Larger frames need larger lenses. It takes more time to grind larger lenses perfectly, so that cost goes up, too. Tinted (colored) lenses can also raise the price.

Hard contact lenses vary in cost. The price of all fitting visits within the adjusting period is included. A color tint will raise the price. Contact lenses are easy to lose. Compare the cost of replacing a lost lens with the cost of buying insurance. Select the best deal for you.

Soft contact lenses also vary in cost. Fittings during the adjustment period are included in the price as is the equipment needed to store and sterilize the lenses. Again, compare replacement costs to insurance costs.

Your choice among the three types of corrective lenses may be settled by the amount you and your family are willing to pay. Know all the prices before a decision is made. Be a smart consumer.

Sunglasses

Ultraviolet rays of the sun can damage your eyes. To prevent damage to your eyes, be sure to wear sunglasses whenever you are out in the sun, 6-5. When skiing, sungoggles or sunglasses are a must. The snow reflects the ultraviolet rays back up into your eyes and could cause severe damage. Sunglasses should be dark enough so that you cannot see your eyes through them when you look in a mirror.

TAKING CARE OF YOUR TEETH

Every time you smile, your teeth become an important part of your appearance. To have healthy teeth and gums, you must

follow a complete program of *dental hygiene*. This is the care of your teeth and gums. Brushing, flossing, eating the right foods, and visiting a dentist regularly are all part of good dental hygiene. Good dental hygiene habits that you practice while you are young will stay with you for the rest of your life. They will ensure that your teeth do, too!

Teeth should be brushed after each meal. If this is not possible, swishing water in your mouth several times will help. A toothbrush with soft bristles is better than



MEN'S FASHION ASSOCIATION

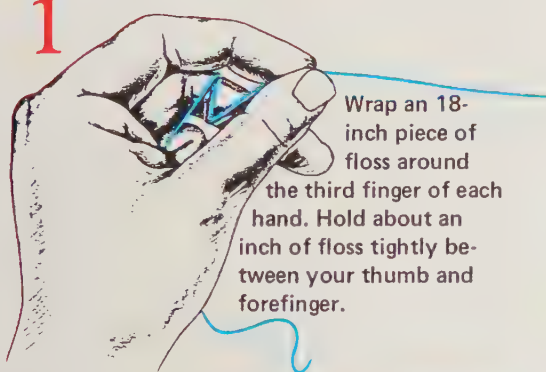
6-5 Take care of your eyes by protecting them from the sun's rays.

a toothbrush with hard ones. Soft bristles can do a better job of removing food particles that are caught between the teeth. Using a toothpaste containing fluoride helps to prevent tooth decay. A mouthwash doesn't substitute for a good brushing. It only tastes good and is refreshing.

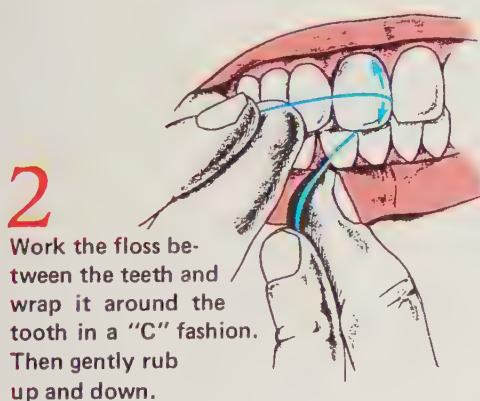
Your teeth should be flossed daily. Using dental floss helps remove food that is lodged between teeth that regular brushing may not be able to remove. Care should be taken not to cut into the gums with the thread. If you do not know how to floss or brush properly, ask your dentist. See 6-6.

Floss

1



2

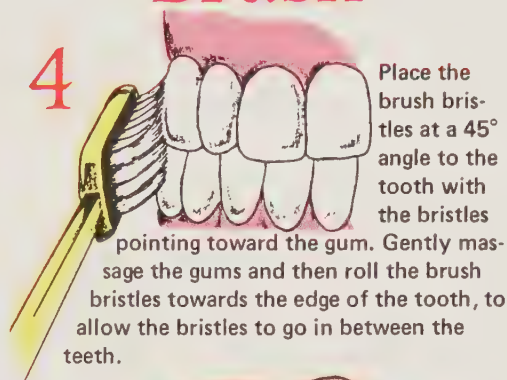


3

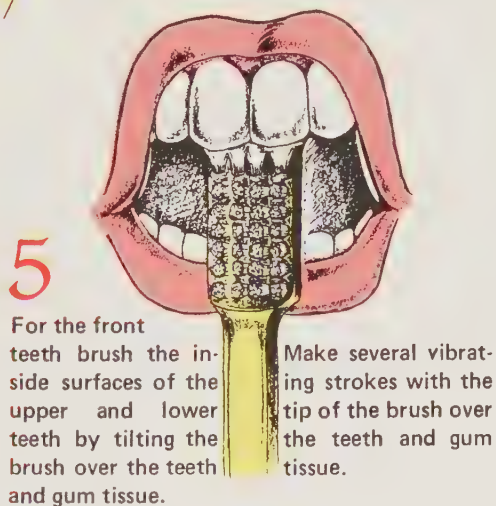
Advance to a clean section of floss as necessary.

Brush

4



5



6

Brushing your tongue will help freshen your breath.

AMERICAN DENTAL HYGIENIST'S ASSOCIATION

6-6 Practicing good dental hygiene can help you to have healthy teeth and gums.

Brushing and flossing remove plaque from the teeth. *Plaque* is a thin layer of film on teeth that contains harmful bacteria. The bacteria causes tooth decay and gum disease. This problem usually starts between the teeth. If plaque is left on the teeth, it builds up and becomes a hard, crusty substance called *tartar*. Tartar must be removed by a dentist or a dental hygienist.

It is important to see a dentist twice a year. Problems can be found and solved before they become serious. The cost of regular checkups is small compared to the cost of repairing neglected teeth.

YOUR HANDS TELL ON YOU

People do notice your hands — more than you may think. They play an important part in how you express yourself, so they deserve some attention.

Keeping them clean

To have well-groomed hands, you must keep them clean. Hands must be washed many times daily. It is surprising how often they get dirty! The palms of hands contain many sweat glands. As hands perspire, they collect dirt and stains. Even ink from a newspaper will turn damp hands dark. Hands can also collect bacteria. The only solution is to wash, wash, and wash! Use a mild soap; rinse and dry thoroughly.

There are few oil glands on the backs of hands. That is why dryness, chapping, and roughness are common problems. Hand lotions help to prevent these problems. You may use lotion whenever your hands are dry, especially after washing them. When you are outside in very cold weather, wear gloves to protect your hands.

Fingernails

From time to time, most nails get a few ridges, ruts, or bumps. Some you can control, others you cannot. Horizontal ridges across the nail are usually caused by rough treatment around the *cuticle* or base of the nail. White spots are caused by air pockets forming in the nail as it grows. They are harmless, and you cannot do much to stop them.

The growing part of your nail is close to your first knuckle. As it grows, it forces the rest of the nail into sight. Nails grow only about a quarter inch (.6 cm) a month.

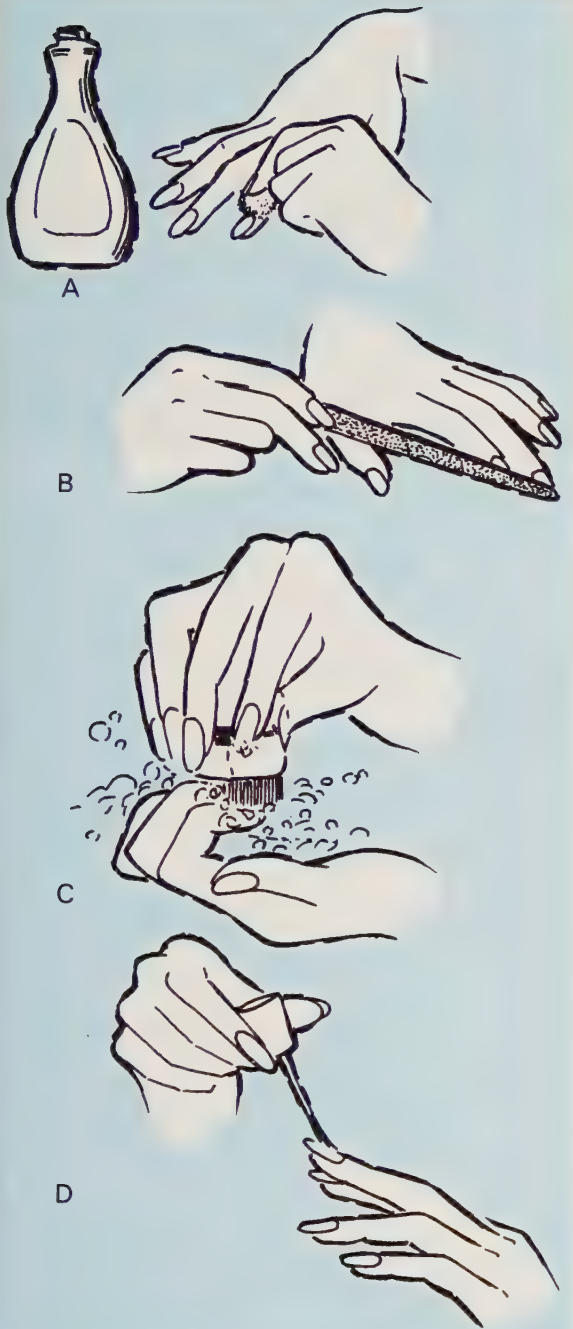
Do you know persons who bite their fingernails? It may be a nervous habit. Keeping the nails free of hangnails, rough edges, or splitting nails will help them break the habit. Sometimes a contest between two nail-biters is the best cure. The one who bites a nail first is the loser.

A weekly manicure

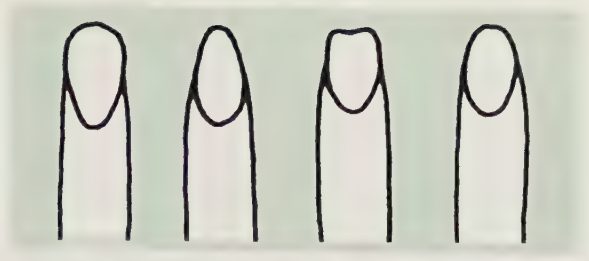
Well-kept fingernails are a part of good grooming. A weekly manicure will help keep them in top shape. A *manicure* is a treatment for the care of hands and fingernails. It is not limited to girls. Few guys want to polish their nails, but the rest of the manicure is important for everyone.

Giving yourself a manicure is easy. It takes only a few minutes and can make a big difference in your appearance. Just follow these steps. (Some are illustrated in 6-7.)

1. Remove any old polish with an oil polish remover.
2. Gently clean under the nails. Do not use a file that has a sharp point. You may tear the skin and leave the area open to infection.
3. Smooth edges and shape nails with an emery board (*Emery boards* are



- 6-7 *A—Remove all the old polish.
B—File nails in an oval shape.
C—Scrub nails in warm, soapy water.
D—Apply two thin coats of polish, if desired.*



6-8 *Balloon-shaped nails make fingers look stumpy. Pointed nails have no support from the sides and break easily. Nails without any shape give hands a sloppy look. An oval shape is best. It is graceful, but sturdy.*

pieces of thin cardboard covered with a grainy paper.) Move it in one direction only. Sawing back and forth will damage nails. Try to achieve an oval shape as shown in 6-8.

4. Scrub nails in warm, soapy water with a small nail brush. Gently push back cuticles.
5. Clip away *hangnails* (the tiny, loose pieces of skin along the side of nails).
6. Well-kept hands are attractive without polish. But if you want to use polish, begin by covering the table with paper. Spilled polish ruins clothes, furniture, and rugs. Apply the polish in three light strokes, moving from the base to the tip of the nail. The first stroke is down the middle of the nail. The others are down each side. Apply two coats of polish, letting each dry for about a minute.
7. Rub on hand lotion.

APPRECIATE YOUR FEET

Each of your feet contains 26 bones, 27 ligaments, and 19 muscles. All must be finely balanced to carry your weight

through the 65,000 miles (104 000 km) you will walk during your life.

It has been said that the feet are the first part of a person to wear out. Perhaps one reason you see so many older people sitting is because their feet are in poor condition.

Pedicures

Your feet should receive daily care. Scrub them well each time you take a bath. Dryness is a problem because feet have very few oil glands. After your bath, dry them well and rub on an oil or lotion.

Pedicures are treatments for the care of feet, just as manicures are for hands. When you have time, you should give yourself a complete pedicure. Follow these steps:

1. Soak feet in warm, soapy water.
2. Scrub toenails and heels with a small, stiff brush.
3. Dry thoroughly, especially between toes.
4. Gently push back cuticles.
5. Trim toenails straight across, 6-9. Leave them slightly longer than the tip of the toe. Smooth edges with an emery board.
6. *Massage* (rub with fingers) the feet. It relaxes the muscles, improves blood circulation, and keeps the feet smooth. Lotion or oil will make the job easier.
7. Apply polish if you wish. Be careful to keep it away from cuticles.

Shoes

Doctors say that many adult foot problems begin during childhood. Young feet grow fast and often change shoe sizes during each year. Shoes may be outgrown before they are worn out. If new shoes are

not purchased, feet will be pinched, and toes will be cramped. As a result, feet may be permanently misshapen.

Continuous pressure from shoes can cause pain as well as damage. Your feet should be measured each time you buy shoes. Always stand in order to get your correct foot measurement, 6-10.

Boots are a popular type of footwear. They vary in height, in the size and shape of the heel, and in the shape of the toe. Rugged boots are available for work and sports. Fashion boots may have hand-tooled designs and inlays of color or metal. You will have to make your own decision about style when buying shoes and boots, 6-11.

There are special shoes for almost every activity. Tennis, golf, dancing, and football all require a different type of shoe. When you buy shoes, keep in mind the job you want them to do. If you need shoes for school, look for shoes that offer comfort.



6-9 To avoid ingrown toenails, trim toenails straight across.



6-10 Measure both feet each time you buy shoes. Always stand so the measurement is correct.



6-11 Some people prefer to wear boots rather than shoes.

If you are going hiking or mountain climbing, you should have a pair of shoes that will protect and support your feet. See 6-12.

Foot problems and solutions

A *corn* is a painful, cone-shaped overgrowth of skin. It usually occurs on toe joints or between toes. Some corns are painful even when nothing touches them. Others may hurt only when pressure is applied. Corns between the toes are called "soft corns." Foot moisture makes them rubbery instead of hard.

Why do people have corns? When shoes put pressure on a certain spot, protective tissue builds up. When it gets high enough, it puts pressure on the nerve below and causes pain. If you know which pair of shoes caused the corn, discard them. The corn will soon go away.

Serious foot problems should be treated by a foot doctor. He or she is called a *podiatrist*. Never decide to be your own surgeon and start cutting off your corn.

A *callus* is similar to a corn but larger. It is usually on the side or bottom of the foot. Soaking in hot, soapy water will soften the area. A brush or rough pad can be used to help remove the excess, hardened skin. You may need several treatments



6-12 If you enjoy hiking, you may want to buy shoes like these. They are designed to protect and support your feet.

before it is gone. A pair of shoes that causes pressure in this spot should be discarded right away.

A *bunion* results when the big toe folds under the second one. This can be hereditary, but poorly-fitted shoes and tight stockings can make it worse. Here again, your feet respond by building up a pad or protective tissue. If it is painful, a doctor should see it.

Ingrown toenails bother many people. They can be very painful. The most common cause of this problem is trimming the big toenail incorrectly. Other causes could be shoes or socks that are too small. When the toenail has been trimmed in a wedge shape, soft tissue grows over it at the corners. Pressure from shoes and stockings cause the pain that results.

Trimming or filing the nail straight across will prevent the ingrown problem from occurring. Toenails should extend a little beyond the flesh, just like fingernails, but the corners should be seen.

Foot odor is a problem for many people. One reason is that air cannot circulate in shoes made of manufactured materials. When feet perspire, air and moisture are trapped, causing the odor.

A medicated, deodorant foot powder put in shoes after each wearing will help the odor problems. If you wipe the insides of shoes with a soapy cloth before treating them, the results are even better, 6-13.

Shoes and socks should be changed daily. If possible, do not wear the same shoes every day. A day off will give them time to dry and air out. Also, keep feet clean.

Athlete's foot is a fungus that grows on moist skin. If there is a break or crack in the skin, it attacks quickly. It is very contagious. You can even get athlete's foot by walking barefoot in public places.

To keep athlete's foot under control, your feet should be kept as dry as possible. When you dry after each bath, give special attention to the areas between your toes. Once the infection starts, it is difficult to stop. The skin peels and itches. It can spread over and under the toes and cause foot odor. Medication is needed to destroy the fungus.



SEARS, ROEBUCK & CO.

6-13 Make shoe care a part of your weekly clothing care routine.

to know

contact lenses	manicure
cuticle	nearsighted
dental hygiene	pedicure
emery board	plaque
farsighted	tartar
hangnails	

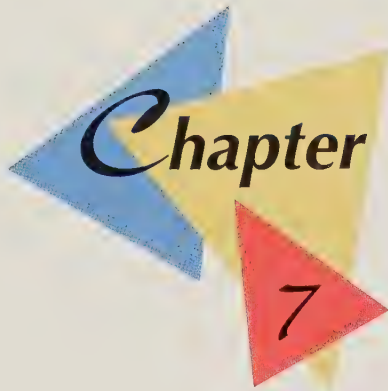
to review

1. (True or False) Eyeglasses can cure poor eyesight.
2. Who can care for all defects, disorders, and diseases of the eye?
 - a. Opticians.
 - b. Optometrists.
 - c. Ophthalmologists.
3. You may have eyestrain if:
 - a. Your eyes are tired.
 - b. Your eyes burn, itch, ache, and look red.
 - c. Your eyelids feel puffy or grainy.
 - d. All of the above.
4. People who are _____ can clearly see things that are far away.
5. List two of the basic guides in choosing eyeglass frames.
6. Why should you remove contact lenses before you go to sleep?
7. Hard contact lenses:
 - a. Are made of glass.
 - b. Are all the same size.
 - c. Are difficult to adjust to.
 - d. All of the above.
8. Why should your teeth be flossed daily?
9. Why do hands become dry and chapped so easily?
10. What is the best shape for fingernails? For toenails?

11. A corn is:
 - a. A painful, cone-shaped overgrowth of skin.
 - b. Usually on the side or bottom of the foot.
 - c. The result of the big toe folding under the second one.
 - d. Caused by trimming the big toenail incorrectly.
12. Anyone can get athlete's foot. What can you do to prevent it?

to do

1. Ask an optician, optometrist or ophthalmologist to speak to your class. Learn about corrective lenses—the history, latest developments, and future expectations.
2. Cut different shapes of frames from heavy construction paper. Have different people try them on. Discuss whether or not they are becoming.
3. If someone in class is wearing contact lenses, have them relate their experiences with adjustments, limitations, and care.
4. Compare the advantages and disadvantages of hard and soft contact lenses.
5. Invite a dentist or dental hygienist to visit your class to discuss the importance of caring properly for your teeth.
6. Plan a “stop biting your fingernails contest.” Check weekly to determine progress. Decide on appropriate rewards and penalties.
7. Have a beautician visit your class for a manicure or pedicure demonstration.



Heads up for Good-Looking Hair

After studying this chapter you will be able to

- analyze your hair.
- list the steps to follow when caring for your hair.
- describe factors to consider when selecting a becoming hairstyle.
- discuss products and equipment for hair care.
- identify hair problems and solutions for them.

In an effort to look super, teenagers spend more time on hair than any other area of grooming, 7-1. They brush it, shampoo it, and style it. There is a wide selection of hair care products from which they can choose.

Clean, shiny hair that is styled right for you will help you look great, 7-2. Some styles help to cover up a long skinny neck. Others can hide ears that stick out or a forehead that is too wide. Hair can also frame a pretty face or show off lovely eyes. Where else can you find such a built-in asset? You are in control, and you can make your hair work for you. Short, medium, or long, the choice is yours, 7-3. Any length will make you look great as long as it is clean, shiny, and styled for you.

HAIR FACTS

Hair is composed of proteins. Its condition and color are determined before it reaches the surface of your scalp. Your general health and the food you eat affect the growth of your hair. Eating the right foods will help your hair to be in good condition. The amount of proteins, vitamins,



TO SEW

7-1 *Your hair can help you look super. Take care of it and have it cut in a style that fits your facial features and personality.*



THE FASHION ASSOCIATION

7-2 *You look great with clean, shiny hair in a style that is right for you.*



SPIEGEL, INC.

7-3A *Some young women look better in a short hairstyle. If you are athletic, a shorter hairstyle may be a good choice.*



COTTON INCORPORATED

7-3B *Long, shiny hair is attractive on many young women. It can look good styled in many ways.*

and minerals you eat may be less than you need. If so, your hair may be dull, dry, and hard to manage.

Hair has two parts — the shaft and the root. The *shaft* is the part you see. It is dead tissue. It does not have a blood supply or nerve endings. The shaft is made up of three layers as seen in 7-4.

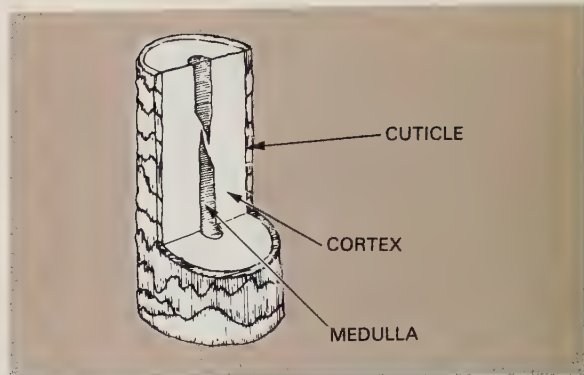
1. The *cuticle*, or outer layer, protects the hair. Its overlapping cells look like shingles on a roof.
2. The *cortex*, or middle layer, is made of long, thin cells. It contains the pigment that gives color to hair. Dark hair has more pigment in the cortex than blond hair.
3. The *medulla*, or center core, is an empty space. Some hair does not have a medulla.

The *root* is the living part of the hair. It is below the scalp surface. Here the hair receives its nourishment for growth from the blood. There is an oil sac close by that lubricates the hair and protects it. The amount of oil given off is affected by age, diet, drugs, blood circulation, and emotions.

Hair grows about one-half inch (1.3 cm) each month or six to seven inches (15 to 18 cm) each year. Trimming the hair does not make it grow faster. A hair stays on the head from two to six years. Then it is pushed out and replaced by a new one. A loss of 40 to 60 hairs a day is normal. The average head has from 90,000 to 140,000 hairs. Redheads have the least amount, and blonds have the most. Some myths and facts about hair are given in 7-5.

Analyzing your hair

Before you can choose the best treatment and style for your hair, you should know



7-4 The hair shaft has three layers. The cuticle protects the hair. The cortex gives it color. The medulla is empty space.

some facts about the hair you have. What is the texture? Is it fine or coarse? Is it thick or thin? Is it curly or straight?

Pull one hair from your head. Look at it. Is it rough and thick or silky and thin? *Fine* hair is narrow and will break easily. It is usually limp and without much body. A strand of *coarse* hair is large and wide. It is often strong when it is in good condition. If it is wiry, it may be hard to manage.

Take a look at your whole head of hair. How much do you have? Persons with *thin* hair have fewer strands of hair than people with *thick* hair. The terms thin and thick refer to the whole head of hair, just as the terms fine and coarse refer to each strand. So you may have thin, coarse hair; thin, fine hair; thick, fine hair; or thick, coarse hair.

To see if your hair is thick or thin, lift it up and look at the roots in a mirror. Can you easily see your scalp? If so, you probably have thin hair. Short to medium length hairstyles are usually better for thin hair. They make the hair seem thicker. The weight of long hair pulls the hair down, making it seem even thinner.

MYTHS AND FACTS ABOUT HAIR

MYTH:

The more you cut your hair, the faster it will grow.

If you shampoo every day, your hair will become oilier.

Permanent waving will cause dandruff.

When hair reaches a certain length, it will stop growing.

If you have your hair cut when you are sick, it will not look as good as when you are well.

If you pull out one gray hair, five more will grow in its place.

Hair grows from the ends.

FACT:

Cutting does not affect the growth cycle of hair.

It is just the reverse. Oily hair often has to be washed every day.

Dandruff is a scalp condition and has nothing to do with the chemicals in permanent waves.

Hair growth is ongoing. You do not notice the growth of long hair as much as you do short hair.

Illness can dull the hair, but a good haircut always looks good.

Only one hair at a time grows from a single follicle.

Growth starts from the roots which are under the scalp.

7-5 Knowing about hair can help you separate myths from facts.

HAIR CARE

Your hair does something good for you only when it is clean, shiny, and lively, 7-6. A few minutes of skillful, daily care will keep it that way.

You know that good hair care includes brushing and shampooing. But did you know there is a right and wrong way to brush and shampoo your hair?

Brushing

Brushing helps keep the scalp healthy by stimulating and relaxing it. As you brush, you remove dirt and dust that settles on your hair every day. You also help carry oil down each strand of hair. But too much brushing is not good for your hair. It can pull the hair right out of some scalps. If your hair pulls out easily, brush it gently. Do not tug or pull. You should not brush your hair when it is wet. This will stretch



7-6 Beautiful hair is clean, healthy, and well-styled. This woman's hair enhances her beauty.

and weaken it. If you have had a permanent, brushing is not recommended.

The best way to brush your hair is to start at the back of the neck. Work up over the head. Brushing up and out from the scalp is also good because this stirs up blood circulation. Blood nourishes hair roots and keeps the scalp healthy. Never brush straight back from the front hairline. The hair is weakest there and will break easily. If your hair is long, over-brushing will damage it. The outer surface (cuticle) of hair has overlapping scales. Snapping a brush through hair is a sure way to split the ends. A brush should not have sharp or broken bristles. Press the brush against the palm of your hand as a test. Examine it closely to see if any of the bristles are breaking or splitting. If so, you need a new brush.

A hairbrush can be made of animal hair or nylon. Hair bristles are softer and cause less damage to the hair than nylon ones. But hair bristle brushes are more expensive. If you have fine, thin hair, a hair bristle brush could be a good investment for you.

Shampooing

Many teenagers have oily hair. The amount of oil coming from the scalp is different for each person. There is no way to stop it despite all the claims of products on the market. Some hair becomes oily after only one day. Oily hair collects dirt quickly and looks lifeless and stringy. It can also develop an unpleasant odor. Hard brushing will make hair oilier, so shampooing daily may be the only solution, 7-7.

Dry hair can feel like straw. If not conditioned, it becomes dull and lifeless. It breaks, splits easily, and has lots of static electricity when it is brushed. Hair can



7-7 A daily shampoo may be necessary to control oiliness and keep the hair shiny.

become dry from exposure to too much sun or chlorine in swimming pools. Using high temperatures when drying hair can also cause it to become dry. Normal hair is not overly dry or oily. It is soft, shiny, and manageable.

Your choice of shampoos depends on your hair and the hardness of water in your area. Most shampoos are made with synthetic detergents instead of soap. This helps shampoos clean hair better, especially in hard water. When soap is used in hard water, it can form a "soap scum" like the ring in a bathtub.

Synthetic detergents remove dirt well, but they can harm hair. To prevent this, conditioners are added. *Conditioners* are products that help improve the condition



7-8 It can be fun to select new hair care products. Read labels to learn how each product will help care for your hair.

or quality of your hair. (The goal is to get a shampoo that will clean well and still be mild.) Shampoos for oily and dry hair differ in the amount and strength of synthetic detergents and conditioners. Read the labels of shampoos to find the best one for you, 7-8.

Rinsing

Rinsing is as important as shampooing. Rinse several times with warm water. Last, rinse with cool water. This closes the pores in the scalp. Any shampoo left in the hair will make the hair dry and hard to manage. The shiny, lustrous look will be gone.

You may want to use a creme rinse or conditioner. Your hair will be softer and tangles will comb out easily. These products also stop static electricity so flyaway hair will be easier to manage.

Always use clean combs, brushes, and

towels when caring for your hair. You do not want to add dirt after you have worked to remove it. See 7-9 for a review of hair-washing steps.

1. Wet the hair with lukewarm water.
2. Work shampoo into scalp using fingertips. (Do not use fingernails.) Massage shampoo into the scalp with gentle but firm motions.
3. Gently work shampoo through the rest of the hair for a few minutes. Lots of lather helps spread the cleaning agent through the hair.
4. Rinse with warm water. Then repeat steps two and three.
5. Rinse until hair is completely free of shampoo. Then rinse one more time with cool water. This final rinse is the most important step to clean hair. Soap left in the hair will collect dirt and make it look dull.
6. If hair tangles easily, use a creme rinse or conditioner. Use the amount recommended on label.
7. Pat dry with clean towel. Comb with a wide tooth comb to remove tangles.
8. Do not be afraid of overwashing. Wash hair as often as needed, at least weekly.

7-9 To have good-looking hair, it's a good idea to establish a hair-washing routine such as this one.

HAIRSTYLES

Appearance is greatly affected by hairstyles, 7-10. Men and women are constantly trying to improve their looks by changing their hairstyles. Both men and women go to salons to have their hair cut and styled. But some styling has to be done at home, too.

Any good hairstyle begins with a good haircut. See 7-11. The style you choose will

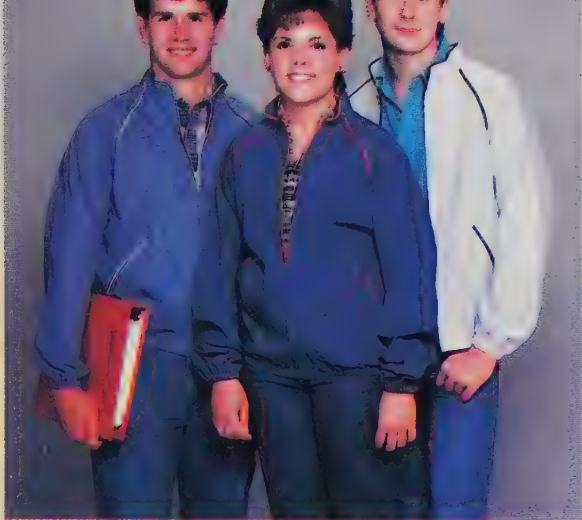


7-10 Hairstyles play an important role in overall appearance.



KANETTE'S

7-11 Hair stylists and make-up artists can be helpful if you feel you need a real "make-over."



HAAN CRAFTS

7-12 *Short hair is popular for both guys and girls.*

determine how often you need one. A short, layered style needs frequent trims to keep its shape. Almost all styles need to be trimmed every four to six weeks just to cut off the split ends. If they are not removed, the split will travel up the hair shaft.

Hairstyles change just as clothing fashions do. It is fun to try the “new look.” Guys and girls often wear their hair about the same length as shown in 7-12. Before you choose a new style, be sure that you feel comfortable with it and that it helps you look terrific. You must know your hair and your features before you can decide how to make them work for you. Let a friend help you decide what features to play-up and play-down. It will be more fun.

Consider your lifestyle

Another factor to consider in selecting a good hairstyle is your lifestyle. How much time do you have to care for your hair each morning or night? You may choose a short cut and simple style if you don’t have a lot of time. Are you into swim-

ming, jogging, or other sports? If so, an easy-care hairstyle may be more convenient. If you have longer hair or your hair needs a lot of styling, you will probably spend more time caring for your hair.

Looking at yourself

After shampooing and while your hair is still wet, comb it back from your face. Study your face in a mirror. Use a second mirror to see the sides and back of your head. Although we always see ourselves head-on, others see us from many other angles. As you look at yourself, consider the following:

1. The type and amount of your hair.
2. The shape of your face, ears, nose, chin, and neck.
3. The size and contour of your head.
4. Your hairline.

Keeping these in mind, the man in 7-13 has chosen a natural hairstyle with a short cut. Look at 7-14 to find a style that is right for you.



MEN'S FASHION ASSOC.

7-13 *This man's hairstyle goes well with his features and physique. Hair care is an important part of good grooming.*



OVAL

The perfect face shape. Lucky you. Everyone else has to work to attain it. You can wear any hairstyle — long, short, straight, curly, bangs, no bangs... Experiment, keeping in mind your age, lifestyle, and what you feel comfortable wearing and can easily maintain.



SQUARE

Try to minimize the broad, angular features of this shape both at the forehead and jaw line. Soft bangs blending into the temple hair can camouflage the square forehead, with a sleek, curving and face-hugging pageboy at the jaw line to minimize it.



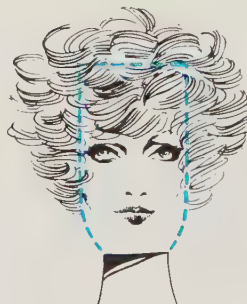
PEAR

Wide at the bottom and narrow at the top. You need volume and fullness in the crown and at the temples. A perm could be an easy solution to maintain that width. A short, full hairstyle is best, with hair cut above the jaw line (you don't want to exaggerate that).



HEART

Wide at the forehead and cheekbones and a very narrow chin are the problems with this face shape. Keeping your hair close to the crown and temple will de-emphasize these points. A soft, full flip will add width at the chin. Hair should never be shorter than chin length.



RECTANGULAR

The long face needs to be shortened, the angularity hidden, the hairline never exposed. Swirled bangs can do it all at the same time. Mid-length hair, falling in front of the ears, will further soften the lines. Another hint is to use make-up shadowing to slim the face from cheek to chin.



ROUND

Slimming your face is the aim. A pulled-back or face-framing hairdo will only emphasize the fullness. Soft waves falling at eye level and continuing to wave at the chin while falling forward on the face will help in trimming to look less round.

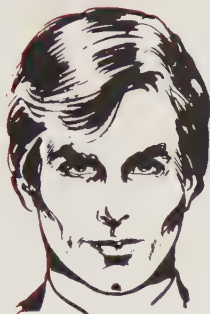


DIAMOND

The idea here is to fill out your face at the temples and chin and keep hair close to the head at the widest points. Deep, full bangs can give the appearance of a broader forehead, while a wide mid-length pageboy adds width at the jawline.

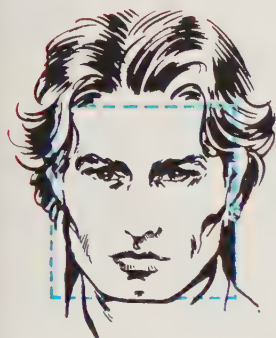
GOODY HAIR PRODUCTS, INC.

7-14 Which hairstyle is best for your face shape? The right hairstyle can complement your facial shape in much the same way certain clothes flatter the body.



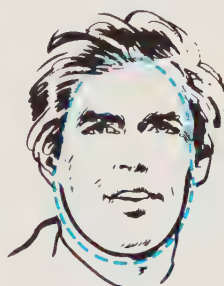
OVAL

The perfect face shape. Lucky you! You can wear any hairstyle. Try changing your part, or maybe even have a perm for a real change. Experiment — keeping in mind your lifestyle, what you feel comfortable with and can easily maintain.



SQUARE

Try to minimize the angular features of this shape at the forehead. Wavy bangs blending into the temple can soften the square forehead and draw attention to your strong, masculine jaw.



PEAR

This face shape is narrow at the top and wide on the bottom. You need volume and fullness at the crown and temples for balance. A short, full style is best, ending no longer than just above the jawline. A perm could be another good solution for assuring width at the top.



TRIANGLE

The potential problems with this facial shape are overly wide cheekbones and a very narrow chin. Keep the hair close to the crown and temple and longer and fuller in back to de-emphasize these points. A full beard, or even "mutton chops" would also help fill out the narrow jaw.



RECTANGULAR

The long face needs to be shortened, the angularity hidden, the hairline never exposed. Blown bangs can do it all at the same time. A layered cut is best.



ROUND

The aim here is to slim the face. Don't wear hair too short or it will emphasize the fullness. An off-center part and some waves at eye-level will help give a less full appearance.



DIAMOND

The idea here is to fill out your face at the temples and chin and keep hair close to the head at the widest points. Deep, full bangs will give a broad appearance to the forehead and a one-length cut in the back will add width at the jawline.

Blow drying

One popular method of drying hair after a shampoo is to use a *blow dryer*. Hair of any length, if cut correctly, can be styled with a blow dryer. See 7-15. Blow drying separates strands of hair. The result is that hair seems thicker and bouncier.

The technique is easy. Remove as much excess water from your hair as possible with a towel. This saves you time and saves your hair from too much heat. Comb through your hair with a wide-tooth comb, beginning at the ends and working up to the scalp.

Hold the blower at least six inches (15 cm) from your head as you direct the flow of air to one section of hair at a time. Move the dryer slightly, but constantly, to prevent overheating. Start to dry your hair at the nape of the neck, working your way up the back. Then dry the sides and top. When

hair is still slightly damp, it can be waved and curled with your brush.

Some blow dryers have comb and brush attachments. These tools help prevent tangles and let you style your hair as you dry it.

Curling

People who have thick, coarse hair may want short, curly hairstyles. They are easy to style, and they can be attractive. The first step is a good haircut. Then the amount of curl can be controlled. Very curly hair is sometimes a fad.

Many people have straight hair, but would like more curls. If you are sure you want lots of curls, you may want to have a *permanent*. This chemical treatment can be done either at a beauty salon or at home if you have someone to help you. If you do it at home, follow the directions on the



CLAIROL INC.

7-15 Blow drying is an easy way to style your hair. You can get great results if you do it correctly.

package carefully. You will have to live with the results for a long time.

There are many ways to create tight and loose curls that last for only a short time. Many people use *curling irons* to get the look they want. Some brands use dry heat; others use steam. Some are solid metal; others are like a brush. See 7-16.

You can use *hot rollers* to curl hair. Both dry heat and steam models are available. While the rollers are warm, roll them into the hair. Remove them when the desired curl is reached. This usually takes only a short time.

Some people choose to use clips, rollers, and hood or bonnet dryers to style hair. With practice, you can achieve attractive results with these items.



ANDIS

7-16 A curling iron can be used to give your hair a curly look or to give you a nice, well-kept look.

Straightening

Some people with curly hair would prefer to have straight hair. There are two ways to straighten hair. *Heat straightening* temporarily straightens hair. This process is done with hot combs and needs to be repeated after every shampoo. This process can cause hair to become dry and damaged. Using conditioners will help keep the hair healthy.

Chemical straightening produces permanent results. To change hair back to its original shape, new hair must grow so straightened hair can be cut off.

It is best to have your hair straightened at a salon. If you decide to do it yourself, however, carefully follow manufacturer's instructions. Using chemical straighteners incorrectly can damage the hair.

Package directions usually recommend that you begin by testing the product on a small area. This step is very important. It helps you see if you might be allergic to the product.

After shampooing straightened hair, set it smoothly on large rollers. Be sure it is thoroughly dry before unwinding.

HAIR TIPS FOR AFRICAN-AMERICAN TEENS

For African-American teens, there are special ways to care for and style hair. Hair is hair, and all hair is basically the same. However, there are two differences to consider. The first is the wave pattern. Many African-American people have very curly hair. Unless this type of hair has a fine texture, the extra curl gives it enough body to stand up well.

The second difference is in texture. The

hair is more porous. It absorbs moisture more readily.

Shampooing

Oil-based shampoos add shine and make hair easier to control. When using them, begin by massaging the scalp with the fingertips. Do not use a circular motion. Slide the fingers through the hair as though you were combing it. This prevents tangles and makes hair easier to comb. Therefore, there will be less breakage. A conditioner should be used after each shampoo. Select a light one rather than one that is thick and heavy. Conditioner gives your hair strength and shine. It also makes hair easier to manage.

Hair that is naturally very curly is often dry and weak. It can be difficult to control. Use a comb with wide teeth to untangle hair. A brush can be used to lift hair from the scalp when styling. Setting hair at night will make it easier to comb in the morning, 7-17.

Styling

There are many different hairstyles. The *fade* is a popular style for African-American men. It is trimmed very short on the sides and fuller on the top. The close-cut hairstyle pictured in 7-18 is great for active people because it is easy to wash and style. The style you choose should be one that you like and that looks good on you.

Braids are popular and fun to wear. They are made by separating a square of hair at the center front of the head. The hair is braided tightly toward the face. Then braids are made down the front of each side of the face. The hair behind each braid is combed forward to hide the part where the braids begin.

If the hair is straightened, perms are often given for soft curls and better control. The hair can be set on hot rollers, or it can be blow-dried and then styled with a curling iron.

GROOMING EQUIPMENT

You do not have to own a lot of expensive hair care equipment to be well-groomed. The varieties and amounts of these supplies are endless. Advertising may tempt you to buy more than you need. Be a smart consumer. Compare brands and prices before you buy.



7-17 Shiny, attractive hair will enhance your appearance.



THE FASHION ASSOCIATION

7-18 A close-cut natural hair style is good-looking, and is easy to wash and style.

Electrical grooming equipment is fun to own. It is convenient, saves time, and gives good results. Blow dryers, styling dryers, styling wands, and heated rollers have been mentioned. Electric manicuring and pedicuring sets are available as well as shavers and toothbrushes.

This equipment is expensive. You will have to decide if the convenience is worth the cost. First check the amount of money you have to spend for your needs. Then start looking for the things you want.

Examine electric appliances closely before you buy. Select one with a brand name you recognize. Read the instructions to be sure the appliance will fill your needs. Then look for the Underwriters Laboratory Seal of Approval on both the appliance and the cord. This seal shows that the electrical safety standards have been met.

Noise is a factor in choosing some equipment. For instance, some blow dryers can be annoying when drying the hair close to the ears. When buying a blow dryer or curling iron, check the weight of the model and see how easy it is to hold in your hand. Also check the length of the cord. A cord that is too short could be a bother. Ask the salesperson to let you compare brands. See 7-19 for examples of various types of equipment.

After you buy an electric grooming aid, take care of it. It should be kept clean and in a specific place. Never use anything electrical while in the bathtub. A serious or even fatal electrical shock could result.

HAIR PROBLEMS

Dandruff is flaking of the scalp. The cause of dandruff is unknown. People with all types of hair can have dandruff. If you have a dandruff problem, it will be especially noticeable on the shoulder area when dark clothing is worn. Special dandruff-control shampoos are available. Follow the directions carefully. Be sure to rinse your hair well after washing.

Head lice are tiny insects that can become a problem on the scalp. Unclean hair is not a factor in getting lice. *Lice* can live in even the cleanest of hair. They cannot cause serious illness, but they do cause severe itching.

Lice are difficult to see. But you can

drug stores.



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to know

blow dryer	head lice
conditioners	heated rollers
cortex	medulla
curling iron	permanent
cuticle	root
dandruff	shaft

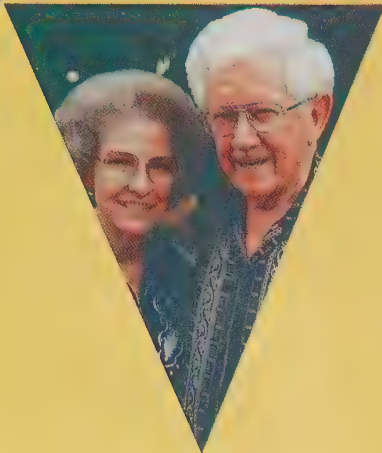
to review

1. Name and describe the three parts of the hair shaft.
2. The amount of oil secreted on your scalp is NOT affected by:
 - a. Age.
 - b. Diet.
 - c. Drugs.
 - d. Shampoo.
 - e. Emotions.
3. The hair root is nourished by _____.
4. Why is it important to know the type of hair you have?
5. Brush your hair:
 - a. More often if you have oily hair.
 - b. When it is wet.
 - c. From front to back.
 - d. To stimulate and relax the scalp.
6. Why is thorough rinsing of the hair as important as shampooing?
7. (True or False) Only short hair can be styled with blow dryers.
8. The results of chemical straighteners are (temporary, permanent).

9. List four things to check before buying grooming aids.
10. List two hair problems and describe how to solve them.

to do

1. Have both male and female hair stylists visit your class. Prepare a list of questions to ask them.
2. Ask classmates with terrific-looking hair to explain the care program they use.
3. Visit the hair care department of a store. Report your findings to class.
4. Compare labels and care instructions for grooming equipment. Study warranties and guarantees.
5. Have a black student demonstrate braiding hair.
6. Collect pictures of different hairstyles, from casual to elaborate. Arrange them on a bulletin board and discuss.
7. Research popular hairstyles of the past. Report to class with sketches or pictures.
8. Arrange a display of hair care items. Have several examples of each item. Compare prices and information on labels. Discuss reasons for differences.
9. Collect magazine and newspaper advertisements for hair care products. Compare statements made about the products. Do they seem to be fact or an effort to get people to buy the products?
10. Make a list of hair care items. Label which are essential, which are nice to have, and which are luxuries. Compare your list with others in the class.

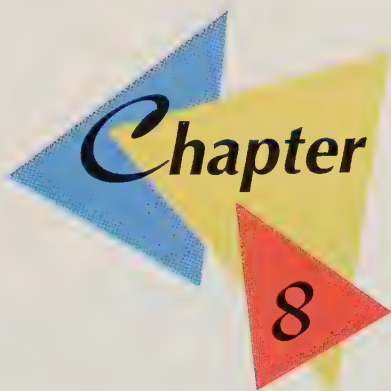


Part 2

You and Your Clothes

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Chapter 8

Understanding Fashion

After studying this chapter you will be able to

- list different reasons why people wear clothes.
- identify cultural and historical influences on clothing.
- define fashion terms.
- discuss fashion cycles.

One of the most exciting aspects of clothing is fashion. Fashion reflects a time and a place. It also reflects a culture. Fashion influences your clothing choices. That is why it is important to understand fashion concepts and use them wisely. See 8-1.

WHY PEOPLE WEAR CLOTHES

All people have basic needs. Needs are physical, psychological, or social. Protection, comfort, and safety are physical needs. Self-adornment and identification are psychological needs. Status and prestige are social needs. Clothing can help meet all these needs.

Protection and comfort

Protection from weather is the most important physical role played by clothing. Whether you live in a cold climate or a hot climate, clothing protects you. Eskimos wear clothing with fur linings. Warm air from their bodies is trapped in the clothing and creates a layer of warmth. People in Ethiopia wear long, white robes. White



JOHN SENZER FOR THE FASHION INSTITUTE OF TECHNOLOGY

8-1 Fashion designers must have a thorough understanding of fashion concepts.



THE FASHION ASSOCIATION

8-2 A lightweight, loosely woven shirt is cool and comfortable yet protects you from the hot sun.

reflects heat and the cover-up clothing keeps the sun from shining directly on their skin. The loosely-fitted garments let air circulate around their bodies. This helps to keep them cooler and more comfortable.

Where you live will often determine what types of clothing you will need for protection and comfort, 8-2. If you live in Minnesota, you will need more clothing to keep you warm than if you live in Florida. Hats and gloves help keep you comfortable by helping your body retain its heat. You may wear a cover-up at the beach to protect yourself from overexposure to the sun. Rain gear keeps you and your clothes dry, 8-3. When going on a long hike, it's a good idea to wear heavy hiking boots to protect your feet from being blistered or injured.

Safety

Clothing is sometimes worn to keep you safe from harm or injury. When boating, you wear a life vest. Football, hockey, and



FROSTLINE KITS

8-3 Protective clothing, such as rain gear and hiking boots, is a must for campers and hikers.

baseball players wear safety headgear. Bicycle and motorcycle riders often wear safety helmets. Race car drivers wear special helmets and safety clothing made of flame-resistant fibers.

Safety clothing is required in some occupations. Fire fighters wear heavy boots and flame-resistant clothing, 8-4. A specially designed hat is also worn. On many industrial construction sites, workers wear hard hats and safety shoes with steel reinforced toes, 8-5. Road repair workers, traffic officers, and school crossing guards wear brightly-colored vests so that they can be seen easily. If they wear regular clothing, drivers may fail to see them, causing an accident. Cyclists and runners often wear reflective-fluorescent tapes on their clothing so that they are more visible to motorists.



8-4 Fighting fires requires protective clothing. What safety features can you see on the clothing of these fire fighters?



JACK KLASEY

8-5 Some types of work require special, protective clothing. This worker wears a hard hat and safety goggles.

Status and prestige

People wear clothing to show their status, prestige, importance, or position within a group. In hospitals, you can recognize the position of nurses by the way they are dressed. For instance, student nurses do not wear the same uniforms as registered nurses. In the armed forces, various uniforms are worn to show rank. A general's uniform is quite different from that of a private, 8-6. In some schools, wearing a cheerleader's uniform is a symbol of status and prestige.

Designer clothes are used as a status symbol for some people. The name of famous fashion designers are often seen printed or woven into garments, 8-7. For instance, expensive jeans or athletic shoes often have the name brand where it can be seen. Some people also consider expensive jewelry and coats to be status symbols.

Self-adornment

Throughout history, people have practiced self-adornment, or decorated their



KELLY WILLIAMS

8-6 *Military uniforms show rank and give the wearer prestige.*

SOME DESIGNERS OF THE 20TH CENTURY AND THEIR CONTRIBUTIONS TO FASHION.

Giorgio Armani: menswear, especially unstructured suits, and some women's wear.

Coco Chanel: the "Boyish Look" following World War I and her collarless suits.

Liz Claiborne: sportswear and working women's clothing.

Christian Dior: the "New Look" following World War II.

Gucci: handbags, shoes, and other leather goods with the "GG" logo.

Hubert de Givenchy: women's evening wear, suits, and dresses.

Halston: women's clothing and accessories.

Donna Karan: simple women's clothing with sculptured shapes.

Calvin Klein: jeans and sportswear.

Ralph Lauren: the "Polo" logo and the American and English country look.

Mary Quant: designs for young people, mini-skirts and tights, in the 1960s.

Yves Saint Laurent: sophisticated, restrained designs for men and women.

bodies. People have followed certain practices to make themselves beautiful according to the customs of their culture. People have painted their bodies with clay and vegetable dyes. They have inserted jewelry in their ears, noses, and lips. They have used colorful stones, metal bands, feathers, and animal teeth to decorate their bodies. Tribes in some parts of the world still carry on these practices.

Today, people still decorate their bodies, but a little differently. Cosmetics and clothes are used for adornment. Accessories such as jewelry, headbands, scarves, and neckties are also used for adornment. Beadwork, needlework, patchwork, and appliqué are some of the creative arts that are used. Through these, you can show your individuality and creativity, 8-8. You may spend lots of time deciding which particular clothing and



BUTTERICK COMPANY, INC

8-8 *Makeup, earrings, and bracelets are examples of adornment.*

8-7 *This is only a partial list of fashion designers whose names may be well-known to you.*

accessories are best for you. Select styles, fabrics, and colors that you feel enhance your features and personality.

Identification

You can often identify people by the clothing that they wear. You can easily identify police officers and mail carriers by their uniforms. Different branches of the armed forces, such as the Air Force or Navy, have specially designed uniforms for their branches. People in the medical field often wear white. It is the color rather than the design of the garments that sets them apart from others. Flight attendants of an airline dress alike. Hotel staff or restaurant waiters may also dress alike, 8-9. In this way, they can be easily identified. Their attractive uniforms help to create a good image for their companies.

In sports, such as football, members of one team wear the same uniforms. This

helps you easily identify players and teams. Imagine how confusing it would be to watch a football game if both teams dressed alike. Think about the type of clothing referees wear. You can always identify them!

Clothing and jewelry are worn by some groups to indicate a certain religious membership. Some people wear jewelry such as crosses, stars, and other religious symbols. In certain religious events, special clothing, such as prayer shawls, christening gowns, or robes, are worn.

Sometimes special clothes are worn during certain ceremonies. At graduation, the caps and gowns worn by the graduates make them easy to identify, 8-10. At a wedding, a bride often wears white, 8-11. At funerals, the mourners often wear black.



8-9 Customers can easily identify this young woman as a restaurant employee.



8-10 At a graduation ceremony, caps and gowns are traditionally worn by students to identify them as graduates.



JAMES R. KONOPASEK

8-11 The custom is that a bride wears the color white.

CULTURAL INFLUENCES ON CLOTHING

You can tell a great deal about people by the clothes they wear. For thousands of years, people in different societies wore clothes unique to their culture. *Societies* are groups of people with broad, common interests who live and work together. *Culture* is the beliefs and customs of a particular racial, religious, or social group. *Customs* are the traditions handed down from one generation to the next. There are many cultures interacting in today's society.

Today, many cultures influence dress. Many societies wear Western dress. However, some people still wear clothes unique to their culture, 8-12. Amish peo-

ple believe in a simple life. Their clothing is simple with no decoration. Clothing reflects their culture and their customs.

Social influences

Early people wore animal skins as clothing. Members of tribes who were considered to be brave warriors or outstanding hunters wore special animal skins, such as tiger or lion, to show how important they were. Other tribe members wore caribou, bear, moose, or elk skins. Elaborate head-dresses, tattoos, and ornate jewelry were also used to display a special status within a group.

For many centuries, the nobility in Europe wore clothing that showed they were the highest class in their society. Clothing was elegant and extravagant with lots of lace, beads, and embroidery. The fine fabrics used were made of imported silks and linens.



8-12 Fur coats with large hoods are a traditional style of dress for Inuits.

Clothing in the United States in the 1600s and 1700s also varied according to a person's position in society. Farm families wore rough, homemade garments. Male servants who worked in the fields wore only breechcloths in the summer. Wealthy merchants and planters and their families wore expensive clothing made of imported fabrics.

In the early 1900s, an increased interest in sports for women led to the creation of new styles that were less cumbersome and let women move more freely. During World War II, slacks and more tailored styles became popular as women worked in defense plants.

Today, new fashions are often started by trendsetters. A trendsetter is a person who takes the lead or sets an example. Often, rock or movie stars are trendsetters. They wear clothing a certain way, or wear certain clothing. Their clothing styles are soon copied by manufacturers and are worn by many teens and adults.

Clothes are often symbols of the groups to which people belong. In this country, business suits are often worn by people who work in offices. Blue jeans and work shirts are often worn by people who work in factories. The wool kilts and skirts worn in Scotland, have plaid patterns that represent different clans. You can also identify what high school people attend by the colors on their school jackets or athletic uniforms, 8-13.

Clothes also reflect positions in government, 8-14. In the Middle Ages, laws were passed by nobility stating what each class of people was allowed to wear. Today, judges wear black robes. Members of the Armed Forces have different uniforms, according to which branch they belong. The style of these uniforms varies according to rank.

Today, people in Western societies are often free to dress as they wish. There are general social standards that we accept in regard to dress, 8-15. For instance, it is usually socially unacceptable to wear a swimsuit to school. People in other cultures may have standards different from those in the United States. What people in the United States might think is unacceptable, may be acceptable to people in other countries.

Family, friends, and community can influence how people dress. As children, people learn to dress like their families. Later, they may start dressing like their friends. This can make them feel as if they fit in better with their friends. However, this way of dressing may conflict with family standards. Communities also influence how people dress. People like to conform



8-13 The different-colored football jerseys worn by these players makes it easy to identify which team they belong to.



JACK KLASEY

8-14 *This man's uniform identifies him as a police officer.*

to what other people in their community are wearing. Sometimes, when people belong to groups, such as the Armed Services, they are told what to wear.

Religious influences

In almost all societies, religion influences how people dress. Religious customs require Muslim women to wear veils in public to hide their faces from strangers. Amish people believe in plain clothing to go with their simple life-styles.

In most cultures, robes, masks, or other accessories are worn for religious ceremonies. In some cultures, these clothes are even thought to help the religious leaders perform their jobs.

Media influences

Plays, movies, music, books, and television programs also influence the way you



8-15 *In some schools, uniforms are required. In other schools, jeans, pants, or dresses may be worn.*

dress. When a clothing style is shown on television or in newspapers, you become more aware of it. You may decide that you like this style of dress and want to adopt it.

Kate Greenway was an illustrator of children's books in the 1800s. She was responsible for a popular dress for little girls. The hero of *Little Lord Fauntleroy* by Frances Burnett wore a velvet suit and curls. This became the fashion for small boys of the time. After the movie *Flashdance* was released, wearing sweat-shirts with the sleeves and neck cut off became popular. Performers in the music field wear styles that are often copied by their fans.

HISTORICAL INFLUENCES ON CLOTHING

Many events throughout history have influenced the fabrics used, the designs created, and the uses made of clothing. Some influences have been political.

Economic and technological advances have also played an important part.

Political influences

For centuries, kings and queens set fashions that were followed by members of their courts. They wore elegant, elaborate garments made of fine linens and colorful silks. Certain colors, such as purple, were reserved for royalty only. The purple dye that came from the shellfish, mollusk, was rare, difficult to obtain, and therefore expensive.

Rulers wanted their clothing to be superior to that of their subjects. During the Middle Ages, people were divided into different classes. Some countries passed sumptuary laws. These were laws that regulated what each class of people could wear. Sometimes laws were also made to force people to buy products made in their own country.

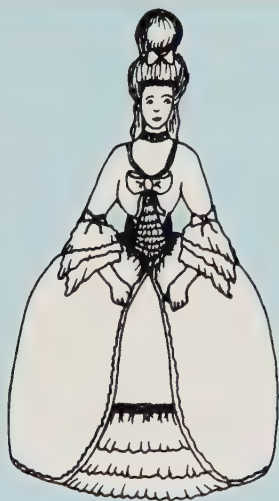
Wealthy, powerful nations also influenced clothing styles. In the 1600s, France

became a European power. Soon it became the fashion leader of the world. Other countries copied the French designers creations. Even today, France is still considered a fashion leader.

A great change occurred in clothing styles after the French Revolution, which took place in the late 1700s. As France changed from a monarchy to a democracy, people wanted to have a say in what kinds of fashions were designed. The elegant fashions of the French nobility, 8-16, were replaced by simpler fashions.

Napoleon Bonaparte became Emperor of France in the early 1800s. His wife, Empress Josephine, made the Empire style world famous. Her dresses had low necklines and high waistlines with drawstrings, 8-17. Many American women also quickly adopted this style.

During World War I, women contributed to the war effort by working in



8-16 Full, ruffled dresses and elaborate headdresses were worn by women of the French nobility in the late 1700s.



8-17 The Empire style of dress is characterized by low necklines and high waistlines.

offices, shops, and factories. Clothing needed to be less cumbersome and restrictive than in the past. Bustles, high necklines, and full sleeves disappeared. The result was a “boyish” look that included short-cropped hair and loose clothing. Chart 8-18 shows some styles of women’s clothing that were popular from the 1920s through the 1970s.

During World War II, civilian use of fabric was restricted since it was needed for military use. New fashions were limited to specific amounts of fabric. Women’s clothing styles became shorter, sleeveless, and collarless. Zippers and trims were not allowed. After the war, the “New Look” became fashionable thanks to Christian Dior, a French designer. Dresses had longer, fuller skirts.

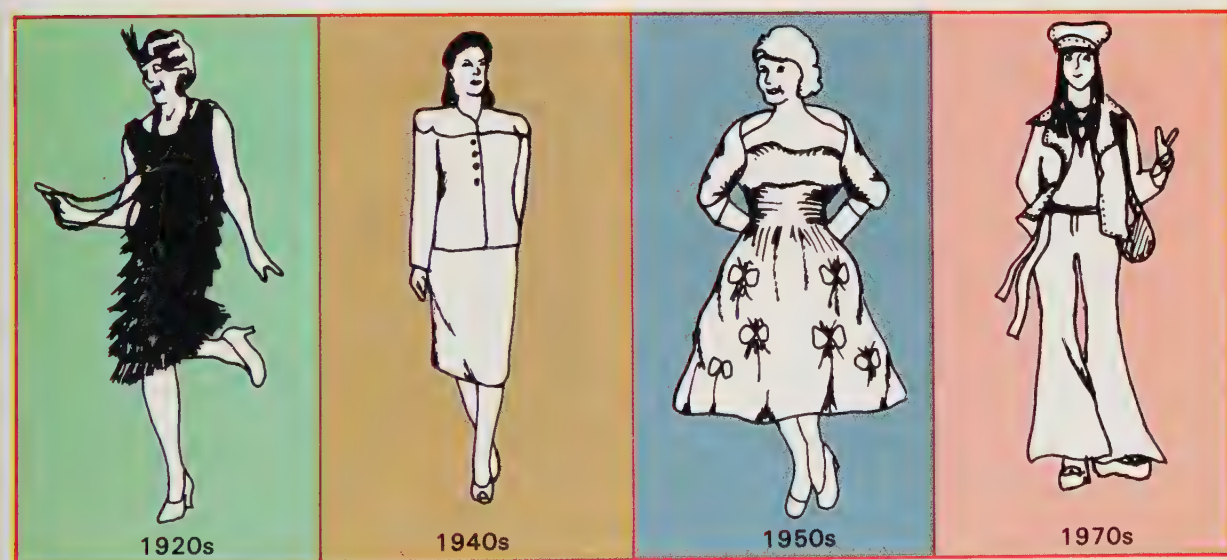
During the Vietnam War in the late 1960s and early 1970s, many young people started the “hippie” movement to protest the war.

Their clothing was very casual. Faded, tattered jeans were worn by both men and women along with tie-dyed clothing.

In the early 1970s, President Richard Nixon went to China to resume relations with the Chinese government. Soon afterward, the mandarin collar and Asian designs became fashionable in clothing and jewelry.

Economic influences

Economics is how a society chooses to produce, distribute, and consume its goods and services. Thousands of years ago people made clothing from the natural resources that were available. Later, they learned to grow fibers that could be spun and woven into fabrics. Some people were more skilled at spinning and weaving than others. They found that their skills could be bartered. Bartering is trading your skills or goods for another person’s skills or goods. Bartering provided the society with



8-18 Political events throughout the 1900s have contributed toward the continual change in women’s clothing styles.

better goods and services.

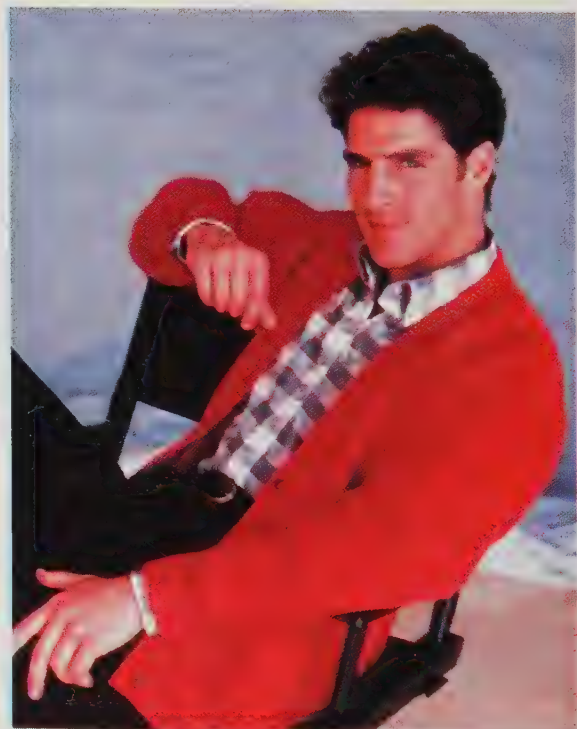
During war, uniforms and equipment are needed. They are costly. In order to meet these costs, government gives less to private industry. Fashion is not as important. The economy suffers.

In the 1970s, many women chose to start working outside the home. Families then had two paychecks, which resulted in an increase in buying power. More clothing was made available because people had more money to buy new fashions. As people buy more clothes, there is more money in circulation, and the economy is better.

Technological influences

At first, people made stone tools to kill animals for food and their furs. Later, they invented needles made from bone. This technological advance enabled them to sew skins together and make better clothing. Spinning and weaving was later developed. All spinning and weaving was done by hand until the invention of foot and water-powered machinery in the 1700s. This development was followed by the invention of the sewing machine in the 1800s.

Today, machinery and procedures are constantly being improved and developed. The development of manufactured fibers from chemicals is a major technological advance of the twentieth century. Another is the use of computers in textile design and manufacturing. Because of computers, all aspects of fashion design and production can be done faster and with greater accuracy. Manufacturing plants are entering a robotic age where specially designed machines handle many manufacturing processes formerly done by people.



MEN'S FASHION ASSOCIATION

8-19 Two common sweater styles are the pullover (top) and the cardigan (bottom).

The many new developments in technology have helped provide more clothes than in the past.

FASHION TERMS

In developing a plan for your wardrobe, there are four terms you should understand: style, fashion, classic, and fad. If you can learn to apply these terms to the clothes you see in stores and advertisements, you will become a wiser shopper. You will buy the clothing items that will help you look smart and well-dressed for a long time.

Style

A clothing *style* refers to the design of a garment. Specific characteristics help identify a garment as a certain style. It makes it unique (unlike any others).

An A-line skirt is different than a pleated or gathered skirt. Each is a style. Sweater styles include the pullover and the cardigan (open front), 8-19. A parka is a style of coat. The pockets, hood, and length make it different from other coat styles. Jeans are a style of pants.

Fashion

A *fashion* is the particular style that is popular at a given time. Casual styles of clothing are shown in 8-20 and 8-21. These styles are also fashions because they are popular today.

Often a fashion reappears that was popular a long time ago. This is why you may have heard the saying, "Fashion repeats itself." One example of this is the hem length of women's skirts. It changes continually. Sometimes skirts are short, but longer skirts always come back in fashion.



THE FASHION ASSOCIATION

8-20 This casual outfit of a knitted pullover and shorts is a style that is also a fashion.



LEVI STRAUSS & CO.

8-21 Wearing clothes that are in fashion is fun.

Compare the sport coats pictured in 8-22 and 8-23. Both are basic styles. As a fashion changes, the details of the basic styles change, too. The width of lapels, the shape of pockets, and the textures of fabrics all change with fashion. However, the basic style of the sport coat remains the same.

Fashions in neckties change often. Sometimes the wide, bright ones are in fashion. In other years, the thin, plain ones are popular. Necktie fashions for women vary from soft, bow ties to straight, narrow ties to no ties at all.

Fashion changes quickly today, but the changes are not as exact as they once were. Today, more and more people choose to wear styles they like even if those styles are not in fashion. Personal satisfaction is



SPIEGEL, INC.

8-22 The double-breasted jacket is a style that often reappears in fashion.



MEN'S FASHION ASSOCIATION

8-23 The details of the single-breasted jacket, such as the width of the lapels, change with fashion.

more important to these people than what is in fashion.

This attitude did not always exist. For instance, several years ago high heels were the fashion for women. Almost all women wore them whether they were comfortable or not. They simply accepted the current fashion. Today, high heels are again popular. Other heel heights are also in fashion. Women can select the style or height they like and that is comfortable for them.

Shoulder bags and purses were introduced to men in the 1970s. Designers thought that close-fitting slacks would

make men's purses popular. However, they found little acceptance. Men still prefer to use their pockets. People today are freer to choose the styles they prefer.

Classic

A *classic* is a style that stays in fashion for a long time. A tailored shirt and a simple pullover sweater are classics. A navy blue blazer is a classic. Metal, white, or blue buttons on the blazer may be seen in different years. Lapels may be wide or narrow. However, the classic blazer stays in fashion. Blue, white, black, or faded jeans

may be the fashion from time to time. The legs of the jeans may be wide, tapered, or narrow. However, jeans are a classic, 8-24.

Many other clothes have become classics. Among these are caps, moccasins, trench coats, business suits, and tuxedos. A tuxedo may have wide or narrow lapels, and it may be made of a variety of colors and fabrics. In any variation, the classic style can still be recognized, 8-25.

Fabrics, designs, and colors also become classics. Linen, crepe, velvet, seersucker, suede, and corduroy rarely go completely out of fashion. Plaids, dots, gingham,



THE FASHION ASSOCIATION

8-24 Denim jackets and jeans are classics that have been in fashion for a long time.



AFTER SIX

8-25 A tuxedo is a classic style that can be recognized easily.

checks, and striped designs are classic patterns. Navy blue and gray are classic colors that are seen year after year.

Fad

A *fad* is something new in clothing that is popular, but only for a short time. In 8-26, you can see several fads for men.

At one time, blue jeans and sneakers were thought to be a fad. However, they were so well liked by teens that their popularity lasted. They are now a classic.

Smart consumers are careful not to spend too much of their clothing money for fad items. These items are fun to wear, and you might feel good knowing that you are wearing “the latest.” However, fad items should be purchased only when you have extra money. Colorful, patterned pants are shown in 8-27. Do you think they are a fashion or a fad?



8-26 Fads for men have included: short-shorts, shorts for formal wear, see-through shirts, knickers, and striped bathing suits.



PINEAPPLE APPEAL

8-27 These bright, patterned pants are fun to wear. Will this fad last long enough to be considered a fashion?

A fad can be a color. Perhaps one season everyone seems to be wearing hot pink. The next season hot pink is seldom seen. White and pastel jeans may be popular one season and not the next.

Fads also influence accessories. Gold chains may be worn by everyone for a few seasons. Then they are less popular, and colored beads and bracelets may take their place. The next time you go shopping, look for styles, fashions, classics, and fads. Save most of your money for styles that will last. Watch for the latest fashion details within a basic style. Spend very little on fads that will be gone soon. With these ideas in mind, you can build a long-lasting and exciting wardrobe.

FASHION CYCLES

A *fashion cycle* is the periodic return of specific styles and general shapes. This

means that fashions go through periods of being popular, and then they go through periods of being unacceptable, or “old-fashioned.” For instance, a designer creates a new style. The style is introduced to the market in the form of a high-priced garment. See 8-28. Then it becomes affordably priced and gains popularity among the general public. Soon the fashion is seen everywhere. Then, the style’s popularity declines. Often this is because a newer fashion has come along. Soon, the style disappears. Later, the style may reappear at the beginning of a new cycle. However, the style might not be exactly the same. New and different details will be added.

Clothing details go through fashion cycles. The width of lapels, neckties, and pant legs change from wide to narrow to wide again over time. Skirt lengths are sometimes near the ankles one year and just



MEN'S FASHION ASSOCIATION

8-28 Fashion trendsetters are often the first to wear the newest fashions.

above the knees another year. At still other times, all lengths can be seen.

Colors also go through fashion cycles. One year, bright colors may be in fashion. Soon, muted or soft colors may be seen instead. Purple may be in fashion one season, and yellow may be in fashion the next. Faded blue jeans may be popular for a few years. The next year jeans of various colors may be in fashion.

In the past, fashion cycles moved slowly. Three basic dress silhouettes (bell, back fullness, and tubular) went through the fashion cycle about every 100 years, 8-29.



8-29 The bell, back fullness, and tubular silhouettes have been repeated throughout the years.

These silhouettes were repeated, but with new and different fashion features each time. Each period of dress had features that set it apart from other time periods. Men's fashion cycles could be seen through the changes in the widths of lapels, neckties, and pant legs.

Designers often study history to get ideas. They create new designs using details from the past. Other designers get ideas by studying different cultures, 8-30. They incorporate these ideas into their designs.

Sometimes, instead of new fashion ideas being created by fashion designers, they come from the street. For instance, jeans and military surplus clothing started out as "street" fashions. Later, designers and

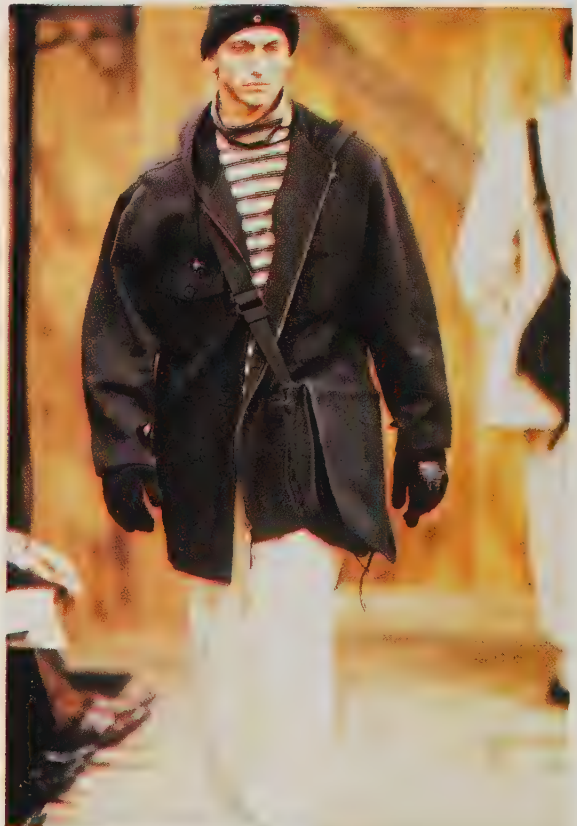
trendsetters caught onto these fashions and made them "new" fashions, 8-31.

Today, fashions cycle at a faster rate because society is changing faster. As technology develops, clothing production improves. These changes mean that more fads and styles are available at a quicker rate. The increase in worldwide communication now makes it easier to see what other people around the world are wearing. Economics also plays a part. When the economy is better, more styles become available because people have more money to spend.



REPUBLIC OF CHINA ON TAIWAN

8-30 By studying other cultures, fashion designers often acquire new ideas.



INTERNATIONAL WOOL SECRETARIAT

8-31 Sometimes a "street" fashion will become a "new" fashion. Will men start wearing briefcases across their chests like a handbag?

to know

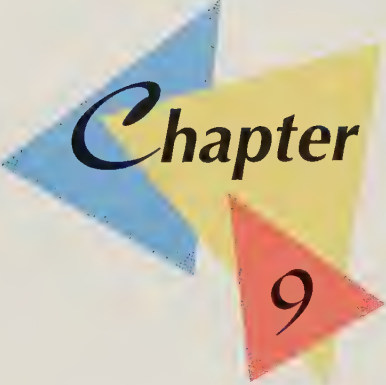
classic	fashion
custom	fashion cycles
culture	society
economics	style
fad	

to review

1. Why is it important to understand fashion concepts and use them wisely?
2. List four reasons why people wear clothes.
3. List three safety features of clothing worn by fire fighters.
4. Why do people practice self-adornment?
5. Give examples of how the media affects the clothes you choose.
6. List two developments in technology that have let us have more clothes than people did in the past.
7. Which of these is not a style?
 - a. A pleated skirt.
 - b. A black coat.
 - c. A bow tie.
 - d. A double-breasted suit.
8. List three fashions of today.
9. Give three examples of classic clothing.
10. (True or False) If you want to build a long-lasting and exciting wardrobe, choose lots of fads.
11. (True or False) Details and designs of clothes go through fashion cycles.
12. Why do fashions cycle at a quicker rate today than they did in the past?

to do

1. Create a bulletin board showing examples of why people wear clothes. Use your creativity to write clever captions.
2. Make a list of all the different groups to which you belong. Identify special clothing that you might wear to show that you are a member of each group.
3. Research native dress or costumes worn in foreign countries, such as the kilt worn by Scotsmen and the kimono worn by the Japanese. Prepare a report to share with the class discussing how culture influences this dress.
4. Interview employers about standards of dress in their businesses. Find out why they have these standards.
5. Survey adults to learn what type of clothing they wore when they were your age. Compare your findings in class discussions.
6. Collect pictures or make drawings of fashions worn at various times in history. Tell how each was influenced by political, economic, or technological events in history.
7. Collect pictures from magazines and newspapers of styles, fashions, classics, and fads. Arrange the four groups of pictures on a bulletin board.
8. Make a list of current fads. Vote to see how many students think each item will become a fashion.
9. Interview three older people. Ask each to list different fashions that he or she recalls cycled one or more times.
10. Look at current fads and fashions in fashion magazines. Then look in a history of costume book to see which fashion details from the past are being used today.



Chapter

9

Planning a Wardrobe

After studying this chapter you will be able to

- describe the role and benefits of wardrobe planning.
- demonstrate effective principles of wardrobe planning.
- make an inventory of your clothes.
- evaluate your clothes inventory to determine your clothing needs.
- distinguish between clothing needs and wants.
- identify factors that affect your clothing choices.
- discuss ways to avoid impulse buying.

How can you get more of the clothes you need and want with the amount of money you have to spend? The answer is planning power! Planning power means getting more for your money. It means making the most of the clothes you already have. It means knowing the difference between clothing needs and wants. It means choosing clothes to fit your life-style. It means resisting impulse buying. This chapter will show you how to develop your wardrobe planning power.

YOUR WARDROBE

You need planning power before you can build up your wardrobe. A *wardrobe* is all the clothes and accessories a person has to wear. A good wardrobe does not just happen. Careful planning is needed. A *plan* is defined as a method used to achieve a goal. With a well-developed plan, you will know what clothes you have now and what you will need to add in the future.

In planning a wardrobe, the major goal is to have the appropriate clothes for any activity that might come your way. You



STEVE NIEDORF/DAYTON HUDSON CORP

9-1 Before you shop, have a plan of action. People with planning power have ideas about what they want before they go into a store. Then salespeople can help them find just the right item.

want your wardrobe to include suitable clothes for all your activities — at home, at school, and for special occasions.

Another goal of planning is to seem to have more clothes than you actually do. Before you buy a new garment, think of how well it will fit into your wardrobe, 9-1. With planning, many garments will go with other garments and look good together. Your outfits will seem to “double” in number.

A look at your clothes

Developing planning power begins with making the best use of your present wardrobe. Most people are not aware of how many clothes they really have. Have you ever made an inventory of all your clothing? An *inventory* is a count or listing of certain items — in this case, clothing and accessories, 9-2. Making a clothing inventory can be fun and can give you a feeling



9-2 By making a careful inventory of all your clothes, you can discover what clothes you have and what clothes you need.

of self-confidence and organization. You may even find a surprise in the back of your closet!

The chart in 9-3 can serve as a guide for your inventory although you may want to add more columns. Make your inventory

at a time when you will not feel rushed. In addition to listing everything, you will have a number of things to consider. Which clothes do you enjoy wearing? Which ones help you look your best? Which ones fit your personality? Your answer to these

LIST OF MY CLOTHES	DESCRIPTION	HOW I LIKE IT	CONDITION	WHAT I NEED TO ADD
Suits (guys)	<i>none</i>	<i>don't like</i>		
Sport Coats (guys)	<i>1-plain brown</i>	<i>OK</i>	<i>like new</i>	
Dresses (girls)				
Skirts (girls)				
Slacks	<i>1-tan 1-plaid</i>	<i>like alot don't like</i>	<i>good too small</i>	<i>1-pair plain-colored</i>
Jeans	<i>4-pairs</i>	<i>great</i>	<i>3-good 1-worn out</i>	<i>1-new pair</i>
Shirts—Blouses	<i>3-plain 5-pattern</i>	<i>like patterned ones best</i>	<i>2-too small</i>	<i>2-new shirts</i>
Sweaters				
Jackets				
Coats	<i>all weather</i>	<i>fits my needs</i>	<i>good</i>	
Shoes—Boots	<i>1-pair for school 1-pair boots</i>	<i>OK my favorite</i>	<i>beat up pretty good</i>	<i>new shoes</i>
Headwear				
Underwear				
Socks				
Jewelry				
Belts				
Other				

9-3 This partially complete chart may help you get started on a clothing inventory of your own.

questions will depend on how the clothes are made, how they fit you, how you feel in them, the color, the type of fabric, and the design.

While taking inventory, you will need to sort your clothes. Put the ones you wear most often together in one place. If there are some garments that need repair, put them in a special section. As you find time, you can work on them. Some of your clothing will be outgrown and can be passed on to someone else.

Evaluating your wardrobe

After completing your wardrobe inventory chart, evaluate it. To *evaluate* means to determine the worth of something. For instance, you can now see what clothes you have and what, if any, new ones you need to add. You may find that you have more clothes in good condition than you thought you had. You may discover that you can mix and match more garments to create additional outfits. You can also decide about what to do with garments that need to be repaired or discarded.

Now look at the garments under each listing in your wardrobe inventory. Do you find you have too many of one type of clothing and not enough of another? For instance, are all of your shirts suited to jeans and only one to dress slacks? Do you find you have enough dress-up clothes for the number of times you need them?

What else can you learn from your chart? Perhaps from the comments under the heading "How I Like It," you can tell what type of clothing you like best. These garments are probably best suited to your figure type or build, skin coloring, and personality. Deciding what you like best when there is so much to choose from is an ac-

complishment. Now when you shop for new clothes, you will know the types of clothing you enjoy wearing. This will help you make wise purchases.

NEEDS AND WANTS

Have you ever announced that you want something and were told that you do not need it? You may find it difficult to distinguish between needs and wants. Few people would be happy if they had only things they need. Your actual clothing needs are few, but your wants are unlimited.

Needs

There are varying degrees of need. The most basic clothing need is to cover your body for protection from the environment. You also need to wear clothes to be accepted by other people.

Your other clothing needs are determined by your life-style and resources. They are influenced by the level of living you and your family have established. Your peer group and close friends also influence your clothing needs. You like to dress as they do, and you need certain clothes to accomplish this.

Wants

A want is a desire for something that will give you more satisfaction than you have now. Wants are endless. You may want clothes for attractiveness, enjoyment, variety, or self-confidence. Many wants result from wishing to have something because somebody else has it.

Manufacturers use advertisements to make consumers want their products and fashions. Merchants set up attractive

displays in stores to convince customers that they want certain merchandise. In 9-4 the display shows trendy clothes in fun prints. When you first see it, you might think that you would like to have one of the garments. If you think back to your clothing needs, you will be able to resist the tempting display.

YOUR CLOTHING CHOICES

Few people like to wear exactly the same clothes as someone else. Instead, they like to show their individuality. Your clothing choices are based on your clothing needs. But you should also consider your personality, activities, and climate when choosing clothes. Do you like to look formal, or do you prefer more casual clothes? Do you need special clothes for dressy occasions, for certain sports, or for your hobbies? Do you need warm clothes for cold winters or extra swimsuits for all those days on the beach? The answers to these questions will help you decide what kind of clothes you should choose.

Your personality

The clothes in your wardrobe should help you express your personality. They should help you say, "I am trying to be me. This is how I feel about myself." You want to wear clothes that are in style, but you also want to choose the styles that will enhance your personality.

Many young men like to wear casual outfits like the ones shown in 9-5. They feel neat, but comfortable. When they need to look more businesslike, they may choose to wear a suit or sport coat. See 9-6. With a well planned wardrobe, young men can mix and match their garments. They can



9-4 Attractive displays may cause you to confuse your clothing wants and needs.



SPIEGEL, INC.

9-5 Most young men look good and feel good in casual outfits.



THE FASHION ASSOCIATION

9-6 This man looks relaxed but businesslike. When he puts on his sport or suit jacket he will look more businesslike.



THE FASHION ASSOCIATION

9-7 Very individual, relaxed outfits help express your personality.



THE FASHION ASSOCIATION

9-8 A patterned vest adds spice and a sense of individualism to this young man's outfit.

combine different slacks, shirts, sweaters, and sport coats. They can create in-between outfits like the one shown in 9-7. As they create these outfits, they are expressing their personalities.

For school and informal dating, both guys and girls have many options. The young man in 9-8 looks well dressed for a casual date or party. The couple in 9-9 have just finished their classes for the day. The

9-9 Even when everyone is wearing jeans, you can express your personality through your choice of shirts and tops.

SIMPLICITY PATTERN CO., INC



typical way of dressing at their school is in comfortable jeans, shirts, sweaters, and jackets.

In terms of wardrobe options, girls have even more than guys. Of course, they can wear casual outfits based on jeans or slacks, 9-10. They also have the option of showing their femininity by wearing skirts or dresses, 9-11. They can express the businesslike side of their personalities by wearing suits. See 9-12.



9-10 You can have a variety of jeans, shirts, and tops for your everyday wardrobe. This girl expresses her own personality by adding hoop earrings and a bracelet.



BUTTERICK COMPANY, INC

9-11 This bright, printed jumper helps this girl express her cheerful, funloving personality.



PENDELTON WOOLEN MILLS

9-12 By wearing a suit this woman gives the impression that she is ready for her job in the business world.

Your activities

Your clothing choices are influenced greatly by your activities—where you go and what you do. You might not choose hiking boots if you never go hiking.

The clothes you choose may be completely different than those of the person sitting beside you in class. Some people do not need dressy or fancy clothes. Casual clothes and jeans are acceptable for the parties and events they attend. Other people who go to many church activities and special events, need several dressy outfits.

Compare the people in 9-13 and 9-14. They have planned different activities, so

they have chosen different clothing. They are all suitably dressed for what they will be doing.

Your most frequent activity is attending school. Therefore, most of your clothes will be chosen for school wear. These same outfits can be worn for other activities such as to a ballgame, hobbies, shopping, movies, visiting friends, or babysitting. Since you wear these garments so often, you should select them carefully.

In some communities, the schools have some authority over what can be worn to classes and school functions. Most parents still feel responsible for how their teens



COTTON INCORPORATED

9-13 For girls, a pretty dress might be worn to a party.



SPIEGEL, INC.

9-14 A sports event means wearing clothes that provide freedom of movement and that can take a lot of wear and tear.

dress. In spite of these influences, you will be able to make many decisions on your own, now and in the future.

Your climate

Different climates create different clothing needs. In some areas, temperatures are fairly warm all year. In these places, people do not have to give much thought to seasonal clothing. They can wear most of their clothes during any season.

In other sections of the country, people must have some clothing that is comfortable in warm weather and other clothes for cold weather. They will probably spend more money for clothes than people in mild climates. A winter coat could be a major

expense. Boots, hats, scarves, and gloves are other expenses for people living in cold climates.

You may decide you need a new coat because yours is worn or too small. In some sections of our country, a lightweight coat is all that is needed. One with a heavy zip-out lining is a good choice for those who live in a colder climate. It can be worn during fall, winter, and spring.

When looking for a coat, style and fit are your first considerations, followed closely by quality and cost. Select a color that can be worn with many outfits. It should not show soil easily since dry cleaning bills can add up quickly. Few people buy a coat every year, so keep in mind that you will



FROSTLINE KITS

9-15 Today's textiles can give you warmth without weight.

be wearing your coat for a long time, 9-15.

The layered look is great for adjusting to different temperatures. It is a popular, attractive, and practical fashion for both



THE FASHION ASSOCIATION

9-16 The layered look is popular and practical. The individual garments can be combined in different ways.

guys and girls. Shirts, sweaters, and jackets can be combined in several different ways, depending on the weather. In 9-16, the young man's outfit began as a basic turtleneck and slacks combination. Then he added a vest and a blazer. He can adjust this layered outfit to be comfortable in almost any temperature.

IMPULSE BUYING

People often buy clothes without a plan. *Impulse buying* is buying something as soon as you see it. You do not stop to think about your needs. Nor do you consider if you have something in your wardrobe that you can wear with it. You buy it because it is pretty, because someone else has one, or because you happen to have enough money with you.

Do not let advertising displays or special sale signs as in 9-17, influence you. Impulse buying will cause you to spend too much money on clothing. Besides, you may not be happy with your purchase when you return home. It is smarter to make a list of planned purchases before you begin to shop. Then if you find a sale price on a garment that you had planned to buy anyway, you will have found a true bargain.



9-17 A sale is a bargain only when you buy garments you need. Buying something just because it is on sale is a waste of money.

to know

evaluate	plan
impulse buying	wardrobe
inventory	

to review

1. List two goals of wardrobe planning.
2. What is the first step in developing planning power for your wardrobe?
3. Why should you take inventory of your wardrobe?
4. After completing a wardrobe inventory, the next step is to:
 - a. Buy all new clothes.
 - b. Evaluate your wardrobe.
 - c. Show it to your friends.
 - d. None of the above.
5. The most basic clothing need is:
 - a. To cover your body for protection from the environment.
 - b. To have more clothes than your friends.
 - c. To be in fashion.
 - d. To buy new clothes.
6. Which of the following can influence your clothing needs?
 - a. Your life-style.
 - b. Your resources.
 - c. Your friends.
 - d. All of the above.
7. List three factors to consider when choosing clothes.
8. School clothes can also be worn for an activity such as:
 - a. Mowing the lawn.
 - b. Hiking.
 - c. Going to the movies.
 - d. All of the above.

9. The "layered look" is practical because:
 - a. It is popular.
 - b. It is attractive.
 - c. It can be adjusted according to the weather.
 - d. It is inexpensive.
10. Impulse buying:
 - a. Is buying without a plan.
 - b. Will save you money.
 - c. Is smart because you do not waste time planning.
 - d. Is buying only what you really need.

to do

1. Make a list of the clothes that should be included in a student's wardrobe. List the number of garments and their order of importance.
2. Discuss the results of your clothing inventory.
3. Make one list of clothing needs and one of clothing wants. Divide into groups to discuss the difference between needs and wants.
4. Plan a dream wardrobe. Justify the need or use for each item you select.
5. Set an imaginary clothing allowance for a year. Plan a wardrobe. Compare your plan with those of your classmates.
6. Select an occupation and plan a suitable wardrobe for a person in that occupation. Explain your choices.
7. Collect pictures to illustrate "my style." Give a reason for each selection.
8. As a class, plan a dress code for your school. Justify your decisions.
9. The "layered look" is fashionable. Collect examples of the layered look that are suitable for your climate and arrange a bulletin board display.
10. Write a consumer news article describing ways to avoid impulse buying. Submit it to your school or local newspaper.



Chapter

10

Clothing Decisions and Choices

After studying this chapter you will be able to

- identify factors that affect your clothing decisions.
- use the decision-making process to make clothing decisions.
- analyze factors to consider when deciding to sew or buy garments.
- demonstrate how to mix and match clothing to create new outfits.
- discuss how accessories can add variety to your wardrobe.

Making clothing decisions and choices is like putting a puzzle together. You have to add the pieces one by one. It takes time to see which parts work together. You do not want any extra pieces that will not fit into the finished product. You must decide which pieces to add.

A few of the right additions to your wardrobe can make a big change, 10-1. Sewing is a great way to get many new clothes for a small price. Making wise decisions about the clothes you need can help you make the right choices. Mixing and matching garments or adding different accessories can add variety to a wardrobe.

DECISION MAKING

Decision making is the process of making a choice. You make many decisions about clothing every day. Some are minor decisions, while others are major decisions. What to wear to school each day is a minor or simple decision for most teens. Whether to wear a sweater or a jacket may not be a major decision either. However, how to combine garments, what to buy, and how



DILLARD DEPARTMENT STORES, INC.

10-1 You can wear any of these separates with other clothes to make a new outfit. This is the basis of good wardrobe planning.

much to spend may be major decisions. Whether to sew some garments and what to give away to someone else may also be in the major decision category. Some of these decisions may be made quickly, while others might require some thought.

When you were younger, your clothing decisions were made for you. Now that you are older, you will probably assume more and more responsibility for your clothing decisions.

Factors affecting your clothing decisions

What do your body shape, your skin tone, your activities, fashion trends, your

clothing budget, and peer pressure have in common? They are all factors that can affect your clothing decisions.

Body shape and skin tone. As you mature, your body build and skin tone may change. Evaluate the styles of clothes in your wardrobe. Are they right for your body shape? You may decide you need a change. Colors that once looked good on you may not look as good now. Test new colors near your face to see the effect.

Your activities. Your activities play a major role in your clothing decisions. You may decide that you need clothes for school, work, sports, special occasions, and yard work. Think about all of your activities. See 10-2 and 10-3. Which clothes can you wear to school or work? Which clothes could you wear on a date? What would you wear to mow the lawn? Can some clothes be worn for more than one activity? For instance, a school outfit could probably be worn on a date to the movies. Old clothes that you would rather not wear to school might be worn for chores around the house.

Fashion trends. Fashion trends can also influence your clothing decisions. Most people want to wear clothes that are the current fashion. But before deciding to follow the latest fashion trend, think about it. Is it just a fad? Will this new fashion look good on you? Can you afford it? These are a few more questions to ask yourself when faced with making clothing decisions.

Your clothing budget. Your clothing budget will affect the decisions you make about clothes. Few people have an unlimited clothing budget. A *budget* is a spending plan. A clothing budget lists your needs and wants as well as the amount of



SPIEGEL, INC., CHICAGO, ILLINOIS

10-2 Sometimes your activities help you to decide what to wear.



SIMPLICITY PATTERN CO., INC.

10-3 These casual clothes could be worn for many different activities.

money you can spend on clothes. If you plan your clothing budget wisely, you can buy the clothes you really need and save for the more costly items or items that you do not need right away. A carefully planned budget helps you to plan your purchases so that you can acquire the clothes that you need and want.

Peer pressure. Your peers are people about your own age. Your friends are often your peers. It is more fun to shop with friends than to shop alone. You may enjoy being with your friends and like to have their opinions about the clothes that you buy. However, sometimes peer pressure may be a pitfall to decision-making when buying clothes. Your friends may try to persuade you to buy a garment that might not be a good choice for you. This could be a garment that will not go with anything else in your wardrobe. Or it could be a fad

item that costs more than you should spend. When you shop for clothes, keep your best colors, body shape, and what you already have in mind. Strive to express your own personality and individuality. What is best for your friends may do nothing for you. It's fine to listen to your friends' opinions, but the final decision is yours. See 10-4.

THE DECISION-MAKING PROCESS

Making decisions is usually easier if you have a plan for making them. If you follow the decision-making process, your decisions will be easier. The *decision-making process* is a series of steps that you go through to help you make choices. These steps can be followed for either minor or major decisions. Here are the steps to follow:

1. State the problem to be solved.
2. Set goals for what you want to accomplish.
3. Identify your resources.
4. List the alternatives or options that are available.
5. Make your decision.
6. Carry out your decision.
7. Evaluate the results of the decision you made.

State the problem to be solved

Be specific about what you must decide. Otherwise, you may have trouble deciding how to solve the problem. The problem could range from what you will wear to school tomorrow to how you will coordinate your wardrobe. State the problem. For instance, "I must decide what to wear with my new shirt," or, "I need a jacket, a pair of jeans, and a pair of school shoes to coordinate my wardrobe." These



10-4 It's fun to shop with friends, but make your clothing decisions based on what you really need and how much money you have to spend.

are better statements than saying, "I need new clothes for school." Stating the problem in detail will help you to know what to consider when making your decision and you will make a better decision.

Set goals

Goals are what you want to accomplish. Establish specific goals for what you want to attain. Then determine the goal you hope to reach from the decision you will make.

For instance, your goal may be to add a jacket, a pair of jeans, and a pair of school shoes to extend your wardrobe before school starts.

Identifying your resources

Resources are the objects or abilities that you can use to reach your goals. Make a list of all your resources. Include your skills, money, and time. Do you know how to sew? Do you have money available from a part-time job or an allowance? Do family members or friends offer you secondhand clothes? Do you have time to sew or carefully shop for the items you want?

List the alternatives

There are usually several ways to solve a problem or reach a goal. These are *alternatives*. Explore all of your options and weigh their advantages and disadvantages. A good way to test alternatives is to ask yourself some questions. Would you want to make a jacket? Do you want to shop for jeans and shoes now or wait until they go on sale? How would you feel about wearing secondhand jeans or a secondhand jacket? Do you have the skills to mix and match new garments with those in your present wardrobe to create new outfits? This could extend your wardrobe.

Make your decision

After carefully thinking about the advantages and disadvantages of each alternative, decide which is best. Perhaps you will decide to sew the jacket and buy the shoes on sale. Your cousin, who has grown several inches this year, may have offered you a pair of good secondhand jeans. Your decisions have been made.

Carry out your decision

To carry out your decision means to turn your words into action. The quicker you carry out your decision, the quicker your goal will be met. Since you know you will be making a jacket, you can shop for a fabric that will coordinate with other items in your wardrobe. You can also begin looking for shoes that are on sale. Perhaps, with the money you saved by getting the jeans secondhand and sewing the jacket, you could buy accessories to further extend your wardrobe.

Evaluate the results

Think about the decisions you have made. Were they successful decisions? Did the decisions solve the problem? Did you meet your goals? Are you satisfied with the results? What would you have done differently? By carefully evaluating your decisions, your future decision-making skills will be improved. When you evaluated your decisions about the jacket, jeans, and shoes, were you happy? Although it took a lot of thought, you now have three great additions to your wardrobe.

TO SEW OR TO BUY

Now that you have learned about the decision-making process, you can apply it to sew or buy decisions regarding clothing. How do you decide whether to make a garment or buy one? It's a good idea to consider several factors. These include your sewing skills, how much money is available, the type of design you want, whether or not you enjoy sewing, obtaining a good fit, and the amount of time available. Answering the questions in 10-5 may help you to make your decision. After answering these

TO SEW?—TO BUY? FACTORS TO CONSIDER



How would you rate your sewing skills?



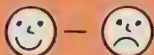
How much money would it cost to make the garment?

How much money would it cost to buy the garment at a store?



How do the current fashions in the stores look on you?

Would you rather wear a personal, original design?

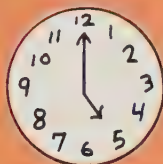


Do you see sewing as a fun activity or as a chore?



Do you wear a standard size that requires little, if any, alterations?

Are you "in between" sizes, or do you find that ready-made garments just don't fit you like they should?



When do you need the garment? What would require the most time—shopping for the garment or sewing the garment?

Do you have enough time to shop for a pattern, fabric, and notions and to make the garment?

10-5 Before making a decision about sewing or buying a garment, ask yourself these questions.

questions, apply the decision-making process to your decision.

You may find that there are advantages and disadvantages to each method. You may choose to combine your choices. For example, you may want to make some items that are easier to make, such as pants, skirts, and T-shirts. You may want to buy items that may be more difficult to make, such as shirts, blouses, jackets, and underwear.

You may choose to sew some of your clothes. Sewing is one of the best ways to build up a wardrobe. Sewing is a skill, as

is playing the guitar, throwing a football, or riding a horse. Certain skills are easier for some people than for others. However, with patience and practice, you can learn any skill, including sewing.

If you sew, you could have about twice as many clothes for the same amount of money, 10-6. In most cases, you can sew clothes of better materials for less money than if you buy the same types of ready-made clothes.

Sometimes, sewing is the only way to get the garment you want—the right color, style, and fit. The young man in 10-7 would have a new look if different colors or fabrics were used. You could make clothes that would reflect your interests and personality. Your clothes would look great and you could have fun. See 10-8.

Fit is one of the most important factors in a clothing decision. When you buy ready-to-wear clothes, you can try them on before you buy them. If you sew, you can take careful measurements to help ensure a good fit.

Both shopping for ready-made garments and sewing garments take time. When making a sew or buy decision, you need to know how soon you will need the garment. If you need a garment tomorrow, you will probably have to buy it. If you have some spare time, sewing may be a wise choice. If the design is simple, it may not take long to sew. You may also want to save tasks, such as hems and sewing on buttons, and do them when you are watching a TV program or listening to music.

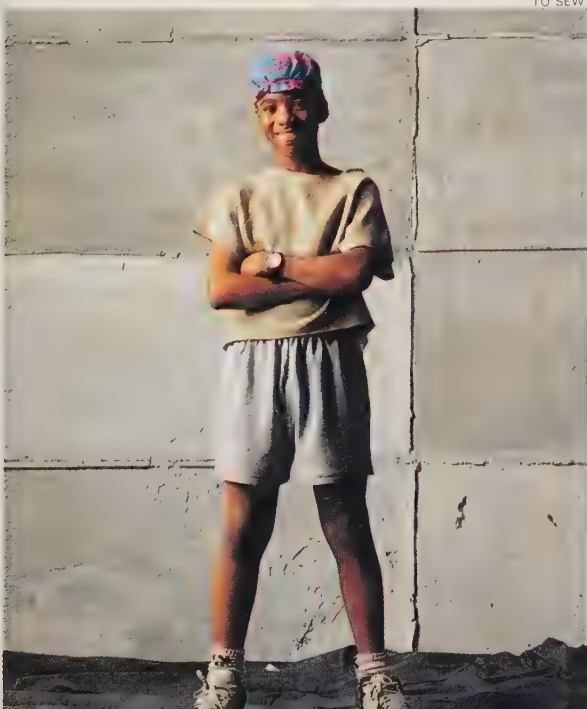
You may want to think about recycling before buying something new. You could restyle last year's outfits to have this year's new fashion. Some other advantages of sewing are listed in 10-9.



10-6 Compare the cost of ready-made clothing with what you can sew yourself. Often, clothes you make will fit better, and be of better quality for less cost.

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10-7 This outfit would be quick and easy to make. You could use different colors and fabrics for mix and match outfits.



TO SEW



MADE AND GROWN IN USA

10-8 Sometimes sewing is the only way to have the garment you want. You can have fun making and wearing your own clothes.

ADVANTAGES OF SEWING

- Having a feeling of pride and accomplishment.
- Make accessories for your own room and home.
- Make gifts and garments for your family and friends.
- Have an interesting hobby and outlet for your creativity.
- Earn money by sewing or altering clothes for friends.
- Select ready-made clothing more intelligently.
- Alter your ready-mades so they will fit better.
- Consider a future career in the clothing field and perhaps a part-time job very soon.

10-9 These are just some of the advantages of being able to sew. Can you think of others?

MIXING AND MATCHING

Mixing and matching is an easy way to make more outfits from the clothes you own. A *mix-and-match wardrobe* is a wardrobe in which the garments have been coordinated (put together) to add variety and to create more outfits. Even if you combine only a few garments in mix-and-match outfits, you can give the impression of having many clothes.

The power of color in mixing and matching

Look through your wardrobe. Do you find that a certain color is repeated in many of your clothes? If so, you could use that color as a foundation as you build your mix-and-match wardrobe.

Perhaps many of your clothes are blue. You could choose to develop a red, white, and blue color scheme. You could begin with a few basic garments including blue jeans, navy pants, a white top (shirt or

blouse), a red print top, and a red, V-neck sweater. You could wear blue jeans with either the white or the red print top. You could add the sweater to either outfit. That makes four different outfits. Change the blue jeans to navy pants, and you have four more!

Try new combinations

Start with the clothes you already have. Study your wardrobe carefully. For instance, select a pair of slacks and see how many shirts, sweaters, and vests look good with them. Imagine combinations you have not thought of before. Hold the combinations together to see the effect. How would a belt or tie look with an outfit? With this try-and-see method, you may find new, unexpected combinations.

Sport coats and slacks for guys can be interchanged to make other outfits. A plaid sport coat could be worn with several different pairs of slacks. If the slacks are the same color as one of the colors in the plaid, the effect is even better. The same coat could be worn with jeans for some activities. Add a vest or sweater and you'll have another outfit. Suppose a young man's wardrobe includes a pair of jeans, corduroy slacks, and khaki pants. He also has a plaid shirt, T-shirt, western shirt, solid color shirt, vest, and jacket. How many different combinations could you make for him?

For girls, skirts, pants, blouses, vests, sweaters, and jackets can be mixed and matched. A skirt could be teamed with a lacy blouse for a dressy occasion. The same skirt could then be teamed with a sweater to create a super outfit for school. If a girl has a plaid skirt, a solid color suit, a plaid shirt, a dressy blouse, slacks, and jeans,

how many different combinations could you make for her?

When you have the chance to add something to your wardrobe, get clothes that fit into your mix-and-match wardrobe. This will require planning and careful selection, but it is important. A few additions can create many new outfits, 10-10. Accessories will add even more variety.

ACCESSORIES THAT STRETCH THE BUDGET

You can get more from your clothing dollar with the use of *accessories*. These include belts, jewelry, scarves, hats, neckties, handbags, and shoes. They do not cost as much as other clothing items, and the choices are endless.

10-10 By removing her vest or exchanging it for a jacket, the woman on the left will have a new outfit. Likewise, the man on the right can create a different look by changing his sportcoat or even his tie.

SIMPLICITY PATTERN CO., INC



INTERNATIONAL WOOL SECRETARIAT



Look through your wardrobe and decide what it will take to “tie it all together.” What could you select that could be worn with many outfits and improve the looks of each one? You would not want to spend money on items that will seldom be used or worn. This is when planning can really be worthwhile, 10-11.

Consider your likes and dislikes. Would you enjoy having a lot of accessories? You may prefer to spend more for a few rather than having many less expensive ones. Only you can make these decisions!

For your figure or physique

Keep in mind your body size and shape when adding anything to your wardrobe. Small people look better in small accessories. If you are a small young man, a medium-wide necktie with a small design

will look better on you than an extra-wide one with a bold design. Small girls are more attractive with small jewelry, hats, or handbags. Large ones would overpower them! You do not want to wear something so large that your friends will see it instead of seeing you.

If a girl has large hips and small shoulders, she can help camouflage this with accessories. Wearing bright jewelry or a scarf at the neckline will draw attention to this area and away from the hips.

You can make a long, skinny neck look shorter by tying a colorful scarf around it. On the other hand, you can add height by wearing a long necklace. Experiment with other accessories to find ways to improve your appearance.

Belts

Belts are a good accessory for both guys and girls. You can choose any style from conservative to elaborate. They range in size from narrow to wide. The widest ones will look better on tall persons.

Western belts are fancy and popular in some areas. They look great with casual slacks, jeans, and denim skirts. See 10-12.

Men can choose belts to coordinate with their other leather accessories. Wallets, eyeglass cases, and key cases are available in leather. See 10-12.

Hats

Hats are a functional accessory for both men and women. In cold weather, they provide warmth. In warm weather, they protect your face and ears from the sun.

You can wear hats with all types of outfits. You might wear a baseball cap with shorts. You can pair a beret with a suit. A cowboy hat with jeans is a popular combination in the Southwest. See 10-13.



J C PENNEY

10-11 If possible, choose accessories that you can use with several outfits, not just one.



10-12 There are many different leather accessories for men. Some men may like all their accessories to coordinate.

Jewelry

Men are more fashion conscious today than ever before. A generation ago, they wore only rings and identification bracelets as jewelry. Now many styles of jewelry are worn by men of all ages. Stones, shells, and other natural materials are popular as well as metal. Earth-tone colors and large, bold designs are used in clothing and accessories for a more masculine look.

Choosing jewelry is often difficult because of the large variety that is available. See 10-14. It is easy to get carried away and spend too much of your clothing money before you realize what you are doing. Planning your purchases will help



10-13 Adding flowers to this denim hat makes it a cheery accessory to wear with the sundress.

prevent that problem. After you know what is available, think about your wardrobe. Know which outfits will look nice with a new accessory before you buy it.

As you build your wardrobe, you will want to add many other accessories. They are an important part of looking your best. They help you look put together instead of thrown together. You will feel more self-confident when you know you look "just right." You'll be ready for any occasion that should come up.



10-14 Look for jewelry that will go with more than one outfit.

to know

accessories
alternatives
budget
decision-making
decision-making
process

goals
mix-and-match
wardrobe
resources

to review

1. Give three examples of minor decisions and three examples of major decisions related to clothing. Label each decision as minor or major.
2. List five factors that can affect your clothing decisions as discussed in this chapter.
3. List the seven steps of the decision-making process.
4. Name six factors to consider when deciding whether to sew or buy a garment.
5. What is the main advantage of mixing and matching garments?
6. An example of an accessory is a:
 - a. Shirt.
 - b. Suit.
 - c. Scarf.
 - d. Skirt.

7. A girl who is short will look more attractive wearing (large, small) earrings.
8. What are three recent changes in men's jewelry?

to do

1. Choose a partner and role play situations about the factors that affect decisions about clothes. Let the class decide which influence you are using.
2. Present a wardrobe problem to the class. Use the decision-making process to solve it.
3. Divide into groups. Plan a clothing purchase using the decision-making process.
4. If some class members already know how to sew, ask them about the advantages of sewing.
5. Divide into two groups. Debate which is better—sewing clothes or buying clothes.
6. Cut out six photos of garments from advertisements, magazines, or catalogs. Mount them on paper. List all the possible outfits you could make out of the combinations.
7. Bring accessories or pictures of accessories for a bulletin board display.
8. Compare the costs of making belts to the prices of belts in some local stores.
9. Discuss the differences and similarities of jewelry for men and women.



Chapter

11

Selecting Clothes for Family Members

After studying this chapter you will be able to

- identify the various factors that affect family clothing decisions.
- choose appropriate clothing for children, teens, adults, and physically challenged people.
- analyze the clothing needs of family members.
- develop a procedure for family decision-making concerning clothing.
- identify resources for effective family decision-making regarding clothing.
- evaluate the effectiveness of a clothing budget for a family.

Life is a series of stages. As each stage in life changes, so do clothing needs. People have different clothing needs as they pass through the various stages of life. For instance, when you were a baby, your wardrobe was quite different than it is now. A grandparent's wardrobe would also be a lot different from yours.

All members of a family want clothes that are comfortable, safe, and attractive. They also want clothes that are suitable for their activities and that require little care. See 11-1.

When selecting clothes for someone, consider that person's needs and wants. Is the color right? Will the garment be a real asset to the person's wardrobe? Is it the right size? If you are buying a garment for someone, it's always a good idea to keep the sales receipt just in case a return or exchange is necessary.

Suppose that you want to select a clothing gift for a baby, parent, grandparent, or a person with a disability. What would you buy or make? You would want a gift that the person would enjoy and find useful. You would need to take some im-

important factors into consideration. With a few guidelines, your gift of clothing could be both useful and pleasing.

SELECTING CLOTHES FOR CHILDREN

Children today are lucky. Years ago, they were dressed like small adults. Now we know that children have clothing needs all their own. Some adults may be willing to sacrifice comfort and freedom of movement for fashion, but children are not.

Clothing needs for children vary with their stages of growth and development. Children's clothing should provide freedom of movement, safety, and room for growth. Equally important are comfort and ease of care.

Whether you are selecting clothes for a baby, toddler, preschooler, or school-age child, you will want to consider proper fit. The best way to check for proper fit is to have the child try on the garment at the time of purchase or as you are sewing it. When this isn't possible, garments should be selected by the child's measurements and weight, not by the child's age. Look for clothing that provides for normal growth. Choose garments with adequate sleeve and garment length so they won't be too short within a few weeks. Clothing that fits properly is not so tight that it restricts movement or so loose that it causes falls.

When selecting children's clothes, consider the comfort of the garments. Children like smooth, soft clothing best. They will



11-1 Family members of all ages need clothes to fit their life-styles.

not wear clothes that are rough, scratchy, or itchy. Sleeves, neckbands, and waistbands should be snug, but not binding.

While shopping for children's sleepwear, you'll notice tags or labels on these garments stating that they meet *flame-resistant standards*. These standards are set by the Federal Government. This does not mean that these garments are fireproof. It does mean that if they were accidentally ignited, they would burn very slowly, and when removed from the flame, would be either self-extinguishing or easy to extinguish. When laundering a flame-resistant garment, always use a detergent. Never use soap. Soap products can destroy the flame resistance in treated garments.

Care requirements are important whether you are selecting clothing for children or adults. Washability is important—both for convenience and for economy. Easy-care, soft, durable fabrics that require little or no ironing are good fabric choices for children's clothes, 11-2.

Certain guidelines should be kept in mind when selecting children's shoes. Proper fit of shoes, socks, or booties is essential to good foot growth. Several adult foot problems can be traced directly to poor-fitting shoes worn during childhood. Buy the size of shoe that fits. Proper fit should allow at least 1/2 inch from the end of the toe to the end of the shoe. Since children's shoe sizes change rapidly, new shoes need to be purchased often to avoid discomfort and later foot problems.

Babies

When selecting clothes for a baby, it is often tempting to get carried away when you see all the cute outfits that are

available. Before buying or making a garment for a baby, consider the needs of a growing baby. Many factors influence the selection of baby clothes. Comfort, ease of care, fabric type, construction, size, and season of the year or climate are all important.

As you shop for baby clothes, your major concern should be the baby's comfort. Keep in mind that a baby's skin is sensitive and delicate. Clothes that won't chafe and that are easy to change are a good choice.



LEE CO.

11-2 Children are active. They need clothes that are easy-care, soft, and durable.

Another major concern is ease of care. Since babies are often changed several times a day, baby clothes should be easy to wash and dry.

Fabrics used for baby clothes should be soft, absorbent, and lightweight. Knitted fabrics offer more comfort and ease of movement than woven ones. Knit garments are popular because of the built-in stretch that “grows” with the baby.

Most babies double their weight in the first three or four months. Because of this rapid growth, try to select clothes that have been designed with growth features that adjust to a baby’s increasing size and weight. For instance, some two-piece sleepers have a double set of snaps at the waist. Clothes that “grow” with a baby are a good investment.

Dressing and undressing is easier if a baby’s clothing has neck openings—zippers, snaps, or buttons. Pullover garments should have stretchable necklines. Pants should have snap crotches for easy diaper changing. For safety reasons, avoid drawstrings. Also, avoid loose buttons or snaps that can be pulled off the garment and swallowed. All trims should be firmly attached.

When selecting shirts for babies, wrap-around or snap-on styles are good choices. Look for shirts that feature seamless underarms. This makes it easier to dress and undress the baby and helps to reduce discomfort.

Stretch terry coveralls and baby jogging suits are suitable for play. Be sure that they allow lots of room for movement and growth. Most coveralls have a snap closure that extends down the leg for easy dressing and diapering.

For greater warmth, blanket sleepers are



11-3 Blanket sleepers keep a baby warm during the night. The rubber-soled feet help to prevent falls as a baby learns to walk.

available. These are useful in cooler weather when a baby is likely to kick off the covers and need extra warmth. For older babies, sleepers should have rubber-soled feet to prevent slipping and falling. See 11-3.

A baby’s most essential clothing items are diapers. When selecting diapers, you may choose cloth diapers or disposable diapers. Cloth diapers are made of absorbent cotton. They may be prefolded, fitted, or flat. Cloth diapers must be washed, but they can be used many times. Disposable diapers are made of paper and plastic with an absorbent inner fiber. Some disposable diapers draw moisture away from the skin.

Disposable diapers are convenient. They are used once and thrown away.

Vinyl (plastic) pants are usually worn over cloth diapers. Vinyl pants should be flexible and soft to allow for comfort and a good fit.

When selecting baby clothes, the garment label and package information are good guides. Age, weight, or general sizes are often given. Weight is usually a more accurate guide than age or general size. When trying to decide whether to select a newborn size or a larger size, it is best to look ahead to the slightly larger sizes for growing babies.

The climate and season of the year are important considerations when selecting baby clothes. For instance, winter garments bought for a baby born in the summer may be outgrown by the time the baby needs them.

Toddlers and preschoolers

Unlike babies, who don't care what they wear as long as they are comfortable, toddlers and preschoolers are becoming interested in their clothes. Comfort is still important. But the clothing needs of toddlers and preschoolers are based on growth, active movement, and the development of their abilities to dress independently. Toddlers' and preschoolers' clothes should be comfortable, safe, durable, functional, and attractive.

When selecting clothes for toddlers and preschoolers, growth features are important. At this stage, children tend to grow faster in height than in width, therefore, the length of the waist, arms, and legs will change more quickly than the width of the shoulders, chest, and hips. Clothes that provide built-in growth features include:

adjustable or stretchable shoulder straps, raglan or sleeveless styles, elastic inserts, stretch or knit fabrics, undefined waistlines in one-piece garments, large hems that can be let down as the child grows, and two-piece outfits.

Comfort and safety are of special concern when selecting clothes for toddlers and preschoolers. Clothes should be made of soft, absorbent, flame-resistant fabrics. The garments should fit properly and have a nonbinding, simple design. For safety reasons, clothing, especially outer clothing, should be brightly colored so that children are easily seen by motorists.

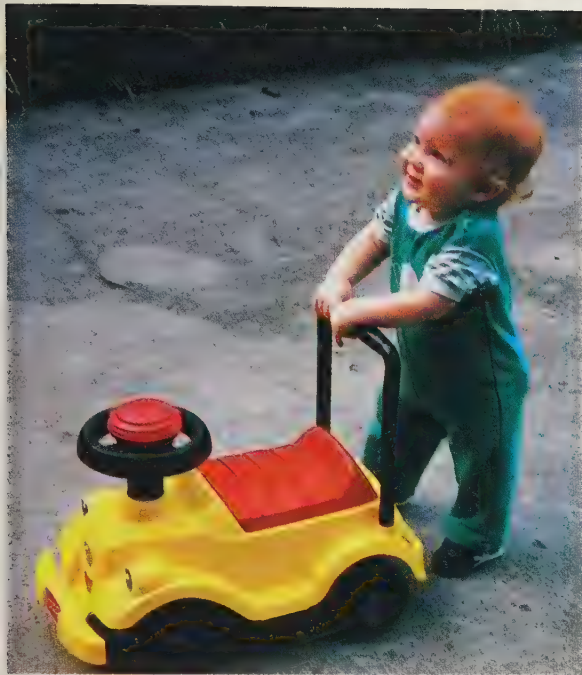
Toddlers and preschoolers are learning to dress themselves. Their clothes should aid them in developing independence, responsibility, and cooperation. Comfortable or favorite clothing can help toddlers and preschoolers feel secure. New clothes can give them a feeling of confidence and pride.

Toddlers and preschoolers like bright colors and designs. These give children an opportunity to learn to recognize colors, shapes, and symbols.

Toddlers. Since toddlers have not developed a waistline and some still wear diapers, simple styles that allow for fullness and maximum freedom of movement should be selected. One-piece garments that fall from the shoulders are practical. Snap crotches on pants help make changing diapers easier, 11-4.

Design features should be functional as well as decorative. For instance, shoulder straps should criss-cross in the back to prevent them from sliding off the shoulders.

During the toddler stage, children begin to learn to dress themselves. Clothing with self-help features will encourage in-



11-4 Clothes with undefined waistlines and snap crotches are ideal for on-the-move toddlers.

dependence as children learn to dress and undress themselves. Easy-to-work openings and closures for quick changes are necessary during toilet learning. Elastic waistbands are especially good for these children. Pull-on garments with large neck and armhole openings are easiest for toddlers to handle. When toddlers learn to snap, button, or zip clothing, they are proud of the new skills they have mastered.

Preschoolers. Because preschoolers are still growing quickly, and moving actively, freedom of movement in clothes and proper fit are still necessary. When selecting clothes for preschoolers, look for styles that allow them to move freely. Jumpsuits are practical garments for preschoolers because they allow for mobility and main-

tain a neat appearance. Preschoolers can also wear shirts and pants with elastic waistbands or belts because their waistlines are now more defined, 11-5.

Dressing skills improve during the preschool years. Preschoolers are able to manipulate fasteners such as buttons, snaps, nylon tape closings, and zippers, but they may still have trouble with small fasteners or with fasteners on the back of a garment. Look for design features that help children identify the front from the back of a garment. For instance, a V-neckline at the front of a shirt or an appliqué design on the front of a shirt or pants



LANDS' END

11-5 Children can easily dress themselves in pull-on shirts and shorts. Being able to dress themselves will help these two preschoolers become more independent.

can help children identify the front from the back.

Clothing can help preschoolers develop a sense of self-identity from comments they receive about their clothes, 11-6. Allowing preschoolers to help select their clothes insures that they will wear the clothing. A color-coordinated wardrobe is a good idea. This way, almost any garments that a child could choose to wear together will look good. Preschoolers like garments with pockets. Pockets should be easy to reach and big enough to hold favorite small toys or other items.

School-age children

School-age children are most comfortable when they wear clothes similar to those of their friends. Older brothers and sisters or TV and movie heroes also influence what school children like to wear. Dressing like others helps school-age children to be a part of the "group." Conforming to certain styles of dress is an important aspect of belonging to a group. Clothes that do not conform can cause ridicule from a peer group.

It's a good idea to allow school-age children to help to select their own clothes. By helping to choose what clothes to buy or make, and what to wear each day, children develop decision-making skills.

When selecting clothes for school-age children, consider their opinions about colors and styles. Children are alert as to what other children are wearing and will likely enjoy clothing that looks like that worn by their friends. Select items that will fit into a child's wardrobe. Children should be aware of which outfits are for school, play, or special occasions.

Clothes for school-age children should



THE McCALL PATTERN COMPANY

11-6 Children need some clothes for special occasions. They feel a sense of pride when nice comments are made about their clothes.

be appropriate for their activities. School-age children like to play. Their clothes should hold up under rough wear, 11-7. Select clothes that are durable and require little care.

As children become more skillful in dressing themselves, select clothes with smaller buttons and zippers. These help children to develop coordination.

Safety is another factor to consider when choosing clothes for school-age children. Clothes should be in bright colors that motorists can easily see, 11-8. Caps or hats that do not obstruct vision are good choices. Reflective-fluorescent tapes are helpful safety features that can be added

to a garment. They can be used for a decorative effect. Stitch them to children's outdoor wear, rainwear, and Halloween costumes.

SELECTING CLOTHES FOR TEENS

When you select clothes for yourself, you consider your tastes in clothing and what looks good on you. When selecting clothes for another teen, you will want to consider that person's tastes in clothes. Even though your friends, brothers, or sisters are alike

in a lot of ways, they all have different clothing needs and wants. Take the time to find out what these are. Just because you would like a bright, red sweater, doesn't mean your brother or sister would. Or just because you look great in the newest fad, doesn't mean your friend would. Try to choose colors and styles that will complement the person's skin tone and body shape.

Try to choose something that will fit into the teen's present wardrobe. If a teen has a favorite pair of slacks, perhaps you will



11-7 School-age children like to dress like their friends. Sometimes roller-skating requires durable clothes!



NANCY KONOPASEK

11-8 When selecting clothes for children, keep safety in mind. These brightly colored winter snowsuits are both comfortable and easily seen.

want to buy or knit a sweater that will look great with them. Or, you might want to choose a tie or scarf to go with a teen's favorite shirt or blouse.

Jeans are a popular item in the wardrobes of most teens. Since most teens have one or more pairs of jeans, a sweater, shirt, or blouse to go with the jeans is often a good choice.

Think about the teen's personality. Consider his or her activities such as school, dates, a part-time job, and hobbies. For instance, a teen who likes outdoor activities might like a pair of sport socks or a tee-shirt. A teen who prefers more dress-up activities may like a nice tie or evening bag.

Think about the types of clothes worn by the teen's peer group. Dressing like others helps teens to be "part of the crowd." See 11-9. This gives teens self-confidence and a feeling of being part of the group without appearing different or odd.

SELECTING CLOTHES FOR ADULTS

There are a number of factors to consider when selecting clothes for adults. These include their occupations, interests, and activities.

Often, the major clothing needs of adults are determined by their occupations, 11-10. The clothes that adults wear to work de-



SPIEGEL INC

11-9 Teens like to express their own personalities through the clothes that they wear. In addition, they want to be a part of the group, too.

pend on the kind of work they do. Bankers, salespeople, receptionists, or managers often come in contact with the public. The way they dress has an influence on how the people they meet feel about them and their companies. Their companies want them to make a good impression because this could affect the success of the company.

Most professional and business people wear suits, 11-11. Men often wear ties. Some office workers may wear dress slacks



PENDLETON WOOLEN MILLS

11-10 An adult's occupation often determines clothing needs. What type of occupation do you think this woman has?



THE FASHION ASSOCIATION

11-11 This man wears a suit to the office. In the afternoon the suit looks sharp as he takes a break.

or dresses, shirts or blouses, sweaters, or blazers. Most office workers wear similar clothing. In some offices, you will see more casual clothing than in other offices.

People who do physical work need durable clothes. Farmers, painters, factory workers, auto mechanics, and construction workers are examples of adults who need durable clothes. Their clothing must be sturdy enough to withstand hard wear and frequent laundering. Well-made garments in wash-and-wear fabrics are suitable.

Some adults are employed in jobs that require safety clothing such as hard hats, ear plugs, eye goggles, and safety shoes.

This type of clothing is needed by welders, miners, brick masons, and certain factory workers.

Special clothing or uniforms may be needed in some jobs such as those in the medical field, airlines, restaurants, or post office. The clothing may be furnished by the employer or purchased by the employees.

Adults may have many interests and activities. Adults who spend a lot of time outdoors fishing or golfing would have different clothing needs than those who prefer reading or attending plays and concerts. See 11-12 and 11-13. For adults with special

interests, gardening gloves, a beach towel, a tennis racket cover, a chef's apron, a sun hat, or a pair of athletic socks could be appropriate. If the person does home chores such as shoveling snow and mowing the lawn, types of clothes that are appropriate for the climate would be worn, 11-14.

If you are selecting clothes for adults, find out what styles and colors they prefer.



LANDS' END

11-12 If you spend a lot of time outdoors you will need more sporty clothes.



THE McCALL PATTERN COMPANY

11-13 This pretty suit would be nice to wear to a play or a concert.

Do they like high fashion clothes and the latest styles and fads? Are bright or subdued colors worn most often? If you are not certain about these answers, ask someone who knows. Learn as much as you can about what they like. This could save you or them a trip for a return or an exchange.

Before buying or making an item of clothing for anyone, find out the correct size. The simplest method is to look at the label in a garment that the person already owns. The size will usually be there.

For men, shirts come in neck and sleeve measurements. Slacks have a waist measurement and an inseam to end of leg measurement. Sweaters are sized small, medium, large, and extra-large.

Women's dress, skirt, and slacks sizes often range from 4 to 20. Some specialty shops and some department stores offer larger sizes, petite sizes, and half-sizes. Blouses are sized according to the bust measurement. Women's sweaters come in small, medium, large, and extra-large.

TORO

11-14 A warm, down jacket, knit hat, boots, and gloves are good to wear while blowing or shoveling snow.



Homemaker/wage earner

Some parents stay at home to care for their children. In this case, fewer and more casual clothes may be needed than if a parent worked outside of the home. As a homemaker, a parent may need clothes for caring for children, shopping, caring for the home, gardening, and preparing food. Clothes should be casual and easy to clean. Many stay-at-home parents are active in volunteer work. They may need clothes similar to those of office workers or more casual outfits, depending on what type of volunteer work they do.

If the parent decides to take a job outside the home, clothing needs will depend on the parent's job. Clothes that can be part of a mix-and-match wardrobe will add flexibility to a wardrobe, 11-15. At home, more casual clothes can be worn. Clothes that are no longer worn to work, such as last season's styles, can be worn for taking care of household tasks. But this does not mean that an old wool suit should be worn to scrub the kitchen floor. Only machine-washable clothing should be selected for homemaking duties.

Retired and elderly people

When selecting clothes for older adults, think about their life-styles. How do they spend most of their time? If they are at home and seldom go out, they may need only casual clothes. If they are always on the go, attending community events and religious services or traveling, they may need more extensive wardrobes.

Basic garments usually suit retired or elderly people better than the latest styles or fads. Older people seem to be more conservative and accept fashion changes less readily than young people do. Basic



SIMPLICITY PATTERN COMPANY

11-15 A person who assumes the dual role of homemaker and wage earner needs a flexible wardrobe.

clothing will stay in style longer and can easily be changed for a new look with accessories. Jewelry, scarves, or belts could give an outfit a new look, 11-16. Find out their favorite colors and styles before you shop or sew.

Clothing for the elderly should have many of the characteristics of clothing for young children. These include safety features, large openings, fabrics that feel soft to the skin, and fasteners that can be easily opened and closed.



SEARS, ROEBUCK & CO.

11-16 By adding jewelry or other accessories, older adults can give an outfit a new look.

Arthritis, which causes pain and stiffness in the joints, affects many elderly people. They may not be able to raise their arms over their heads for back closures or to manipulate zipper pulls or buttons. Clothing that makes dressing and undressing easier for them, such as slip-on shoes and pre-tied neckties are appropriate. Pull-on slacks and pants are a good choice. Wrap-around garments that tie in front are easy to wear. Hook-and-loop tape fasteners can be used in many areas instead of but-

tons. Hook-and-loop tape fasteners on belts prevent working with buckles.

As people become older, they may be less active. Their blood circulation may slow down. This may cause them to be more sensitive to cool temperatures. They may enjoy items such as sweaters, robes, or warm slippers.

SELECTING CLOTHES FOR PEOPLE WITH PHYSICAL DISABILITIES

If you have ever had a sprained arm or a broken leg, you may have a small idea about what a physical disability is like. A physical disability is a condition that limits a person's ability to perform tasks like walking or lifting, 11-17. Some people are born with disabilities. Other disabilities are the result of illness or injury.

Clothes selected for people with disabilities should promote comfort and independent living, 11-18. Clothing should be attractive as well as functional. Clothing styles for people who are able to dress themselves should be easy to put on. Clothing should contribute to the dignity of people who must depend on others for personal care.

Finding ready-to-wear garments or patterns that meet the specific needs of people with disabilities is often difficult. Alterations or adaptations may be necessary to make clothing easier to put on and more comfortable to wear.

People with disabilities have unique clothing needs. Select or make clothing that someone with a functional limitation can manage conveniently. People with disabilities may have limited hand movement or they may be unable to move their arms freely. Some people with these types



11-17 People who use a walker need clothing that is comfortable and that does not restrict movement.

of disabilities may have trouble fastening garments with back openings. They may need larger arm openings because they are unable to reach to put their arms into sleeves. This is why styles with raglan sleeves are a better choice than those with set-in sleeves.

It may also be difficult or impossible

for people with disabilities to button garments. People with limited hand movements or low vision may have trouble aligning and buttoning buttons. Using hook-and-loop tape can make fasteners and closures more convenient.

People with low vision may have trouble distinguishing the back of a garment from the front. Look for design features, such as a V-neckline or an appliqué design on the front of a garment, that would make identification easier. It might be difficult for people with low vision to identify colors. Stitching small pieces of different widths of rickrack or other trims to the inside of garments help mark them. All garments that can be worn together can be marked with the same size or type of trim.

When selecting clothes or patterns for people with disabilities who can dress themselves, look for front openings or wraparound styles. Fasteners and closures using hook-and-loop tape, zippers with ring pulls, and longer length zippers provide more convenient openings.

Often clothing must fit over braces or a cast on a leg. Slacks should have elastic waists. Extra zippers in the inseams of slacks will also aid in dressing.

Durable fabrics should be chosen, especially if a brace is worn. The friction caused by braces can be hard on most fabrics. Areas that receive a lot of wear can be reinforced by fusing or stitching an extra layer of fabric to the inside of the garment. Leather patches or large appliqués can be added to the outside of garments to reinforce areas of friction.

Easy care fabrics should be selected. Heavy fabrics may be too bulky for people who use a wheelchair, crutches, or a



ALLIED CORPORATION

11-18 Clothing that is comfortable and easy to put on can help people with disabilities lead independent lives.

walker. Fabrics that cling are not suitable because they do not allow adequate freedom of movement. Moderate weight knit fabrics are a good choice because they provide comfort and ease of movement.

When selecting clothes for a person who has a disability, select more classical clothes instead of fad clothes that are in fashion for only one season. This will prevent frequent shopping trips and save money.

FACTORS AFFECTING FAMILY CLOTHING DECISIONS

Several factors affect family clothing decisions. These include special clothing needs, family values and goals, and the

family resources and budget. How all of these factors are managed will determine how successful a family's clothing decisions will be.

In Chapter 10, you learned about the decision-making process. In making family clothing decisions, the same decision-making process can be used. However, instead of applying the process to just your own needs, it is applied to the needs of the family.

Special clothing needs

As you have learned, through the various stages of the life cycle, family clothing needs change. The number and age of members of a family affect family clothing needs. For instance, a family with young children will have different clothing needs than a retired couple.

Clothing needs arise throughout the life cycle. Babies and young children grow so fast that they need clothes more often than adults do. When children go to school, their clothing needs often increase. In addition to play clothes, school clothes are needed. Young people planning to attend college often need clothes for their college wardrobes. Young adults entering the job market will need clothes appropriate for their jobs. A homemaker who assumes the dual role of homemaker and wage earner may have dual clothing needs—clothes for homemaking duties as well as clothes for work. A person who is retired may need more casual clothes.

Family members involved in organizations or sports may need special clothes. For instance, if members of a family are involved in skiing, they might need hats, gloves, jackets, pants, and boots. If children belong to organizations such as

Scouts or Little League, special uniforms may also be needed. See 11-19. Family members' hobbies and activities should be considered when determining family clothing needs.

Sometimes, special clothing needs arise for special occasions or holidays. For instance, a wedding often calls for special clothes. Special clothes may also be needed if a family will be going on a vacation, 11-20. Some people like to dress for holidays. For instance, red, white, and blue outfits are often worn to Fourth of July celebrations.

Family values, goals, and priorities

A family's values and goals will affect clothing decisions. Family attitudes about clothes, tastes, and activities are all a part of a family's priorities.

Setting family clothing priorities and goals are most effective if each member of the family has a part in setting the priorities and achieving the goals. Parents usually lead the planning process. When children reach a level of understanding, they should be encouraged to participate, too. The family should decide what is most important to the family as a unit and to each



GIRL SCOUTS OF THE USA

11-19 School-age children often belong to organizations such as the Girl Scouts or the Boy Scouts. Sometimes special uniforms are required.



J.C. PENNEY CO., INC.

member. Family members should be urged to think and talk about their values and clothing needs and wants.

Setting family clothing priorities and goals has advantages. Each family member learns to balance his or her own needs and wants against those of others and to compromise. Also, children are better prepared to set up their own plans in the future.

Begin by listing clothing items the family needs and wants most. Estimate the cost of each item and when it will be needed. This will help in establishing priorities and goals.

It's a good idea to try to find a balance between family goals. For instance, it may be nice if each member of the family had new summer clothes, but winter coats may be needed later in the year. Perhaps one member of the family wants an expensive designer outfit for a special occasion while another member of the family wants clothes for school or work. A family

decision-making session should take place. Family values, goals, and priorities should be discussed. A decision that is best for the family should be reached.

Family resources and budgeting

After family clothing values, goals, and priorities have been discussed, a family must consider the family clothing resources and budget. Resources are the objects or abilities that families can use to reach goals. Skills, time, and money are all resources that can help meet family clothing needs.

Just as families differ, the resources available to each family differ. A family may lack a resource such as money, but perhaps family members can use other resources such as time or skills to compensate. For instance, sewing clothes or careful shopping could save the family money. (You will learn more about sewing and shopping skills in later chapters.) Family members can learn to do their own clothing

SPIEGEL, INC.

11-20 Sometimes people buy special clothes to wear on a family vacation.



repairs and alterations instead of paying someone else to do them. Recycling or redesigning garments could save money and enlarge wardrobes. (Recycling and redesigning ideas are given in Chapter 12.) Clothes can also be shared among family members or handed down from one family member to another.

Used wisely, money is an important resource. A *budget* is a spending plan that can help families manage money. A budget gives a family a clear picture of how much money is available to meet needs. Many items are included in a family budget. Keep in mind that clothing is only one of these items. Other items may include food, housing, health care, transportation, personal items, and recreation, 11-21.

Some families set up clothing budgets on a monthly, seasonal, or yearly basis. However the budget is set up, it should consider:

- The amount of money the family has to spend.
- The total amount of non-clothing expenses.
- The importance of clothing to the family.
- The amount family members want to budget for clothes after meeting essential needs such as housing and food.

Once a family decides how much money is available for clothing, a record of clothing expenses should be kept. Clothing expenses include the price of all garments plus their regular upkeep—laundry, dry cleaning, and repairs. This list can be reviewed to see if spending patterns need to be changed. The family may want to reduce spending on clothes or reduce spending in other areas such as recreation or snack foods.



11-21 In addition to clothes, the family budget must also include items such as food, housing, and transportation.

Families can save money on clothes by buying well-made garments that won't have to be replaced often. It's a good idea to buy clothes that can be laundered so that dry cleaning bills can be avoided.

The list of expenses reflects family spending patterns. This will help in planning future expenses. For instance, big budget items like winter coats, a new career wardrobe, or school shoes may require extra planning. A family can start preparing for these needs several months in advance. A certain amount of money can be set aside so that it is available when the items are needed.

Every few months, the family budget should be evaluated. A budget is not a rigid plan that cannot be changed. When there is a need to change the budget, family members should discuss it and adjust it. A budget can be a useful tool if it is used to help a family meet needs based on family values, goals, and priorities.

to know

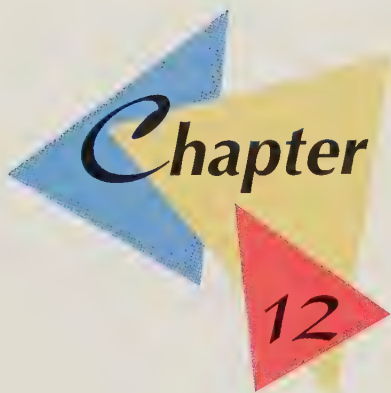
budget
disability
flame-resistant

to review

1. List five factors to consider when selecting clothes for children.
2. For proper fit, clothes for a child should be selected according to:
 - a. The child's age.
 - b. The child's weight.
 - c. The child's measurements.
 - d. Both b and c.
3. List three types of built-in growth features in clothes for toddlers and preschoolers.
4. Clothing with self-help features will encourage _____ as children learn to dress and undress themselves.
5. Why should school-age children be allowed to help select their own clothes?
6. When selecting clothes for another teen, you will want to consider:
 - a. That person's parent's tastes in clothes.
 - b. Your own tastes in clothes.
 - c. That person's tastes in clothes.
 - d. The current clothing fad.
7. Often, adults' major clothing needs are determined by their _____.
8. (True or False) Clothing for the elderly should have many of the characteristics of clothing for young children.
9. Clothes selected for people with disabilities should:
 - a. Promote dependent living.
 - b. Promote comfort and independent living.
 - c. Be attractive as well as functional.
 - d. both b and c.
10. List three factors that affect family clothing decisions.

to do

1. Bring several children's garments to class. Discuss the features that are good and those that could be improved.
2. Invite a parent to bring a baby or a toddler to class. Ask the parent to demonstrate dressing the child showing the features that should be included in clothing design for easy dressing.
3. Interview someone who has a small child. Ask what factors were considered in selecting clothes for the child.
4. Interview three school-age children about their choices in clothing. Ask about their favorite colors, styles, and fabrics. Write a report.
5. Look through magazines, books, and catalogs for gift ideas for family or friends. Prepare a bulletin board to display your ideas.
6. Invite men and women executives to speak to the class about how they select their wardrobes.
7. Invite a person who has assumed the dual role of homemaker and wage earner to discuss his or her wardrobe planning techniques.
8. Invite a member of an association for retired people to speak to the class about choosing clothing gifts for older people.
9. Interview someone who has had a broken leg, foot, or arm. Write a short report about how the handicap affected the person's clothing selections.
10. Invite a person with a disability to speak to the class about the adaptations or alterations that must be made to his or her clothing for comfort, convenience, and/or proper fit.
11. Pretend that you are going to college. Plan a wardrobe budget with a given amount of money.
12. Develop a radio commentary or television spot about gifts that would be appropriate for various family members.



Chapter

12

Repair, Redesign, and Recycle

After studying this chapter you will be able to

- expand your wardrobe by repairing, redesigning, and recycling garments.
- demonstrate clothing repair techniques.
- alter garments to improve their fit.
- restyle and update garments to better fit your wardrobe needs.
- use garment redesigning methods such as adding appliqués or trims, dyeing, or painting.
- list ways clothes can be recycled.

Look at the clothes in your closet. Do you find some garments that just hang there month after month? Whenever you select something to wear, do you skip over these clothes? Some could have loose buttons, rips or tears that need to be repaired. Others are in good condition. But you may just not like to wear them. The legs of jeans may be too wide, too narrow, or too short. Perhaps a garment is the wrong color or style. Maybe you have outgrown it or it is in poor condition.

There are ways to revive these clothes. Three methods are by repairing, redesigning, and recycling. Take one garment at a time, and look at it carefully. You can have fun using your creative abilities and your sewing skills. Some garments could come to life in a completely new form. Your ideas and handiwork could make an old garment better than something new!

REPAIRING CLOTHES

What do you do with your clothes that need to be repaired? Do you ignore them and toss them in the laundry basket? Do

you hide them in the back of your closet?

A better solution is to repair the garments right away. See 12-1. If that is not possible, you should put them in a special place. Then you will remember to fix them when you have time. When you want to wear them again, they will be ready.

Fix that hole

When holes appear in garments, patches are needed. *Patching* is the technique of sewing a small piece of fabric over a hole in a garment. Patches are often used on garments to add color and interest. No one has to know that there is a hole beneath

your patch. Do you have a hole in the elbow of a sweater or jacket? You can cover it with an oval-shaped, leather-like patch to give it a new look.

You can even use a decorative appliqué to patch a small hole. Leftover scraps of fabric in your home can be cut into any shape and used as patches. Iron-on materials in a matching color or in a new design cover holes quickly and easily. They can be purchased in fabric, department, or variety stores.

Perhaps you have a hole in the knee of a pair of jeans, 12-2. This is easy to repair. A sewing machine gives faster and stronger



12-1 Some stitches have come loose along a seam in this skirt. Repairing the seam right away means the skirt will be ready to be worn when needed.



repairs than hand sewing, but either method can be used. To fix it, rip the seams in the leg past the hole. This gives a flat surface on which to work. Cut the damaged section out of the leg. Using a pair of discarded jeans, cut a section of fabric that is a little larger than the damaged section you cut out. Sew the top and lower edges of the patch to the jeans first. Then re sew leg seams that you ripped in the beginning. The completed repair is shown in 12-3.

A patch can also be used to fix a tear in the center of a garment as in 12-4. Cut out the damaged portion and replace it with a similar or contrasting fabric. Turn under the edges around the patch, and topstitch for extra strength. See 12-5.

It is important that you work as carefully on the patch as you would in sewing a new garment. You would not want to be em-

barrassed when a friend examines your clever handiwork.

When a tailored placket in a shirt sleeve rips open, a tear like the one shown in 12-6 usually results. Sew the tear closed with the machine or by hand using short stitches. Then close the placket to help hold the ends in position for restitching, 12-7. Sew the placket to the top of the seamed area (arrow 1). Use slanted stitches (arrow 2) rather than straight stitches. They give more strength and help prevent another tear.

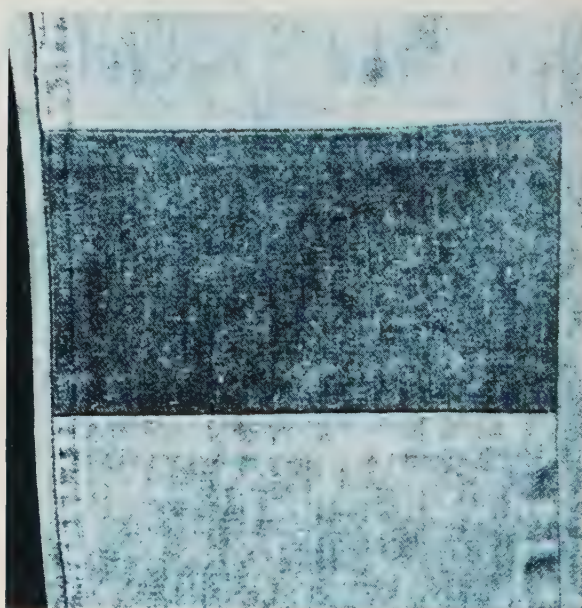
Darn that worn spot

Darning is interlacing stitches back and forth to make a spot look like the original weave or knit. This is a good way to mend small holes. Darning can also reinforce a worn place for longer wear, as the heel in your socks.



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12-2 A hole in the knee of jeans can be repaired.

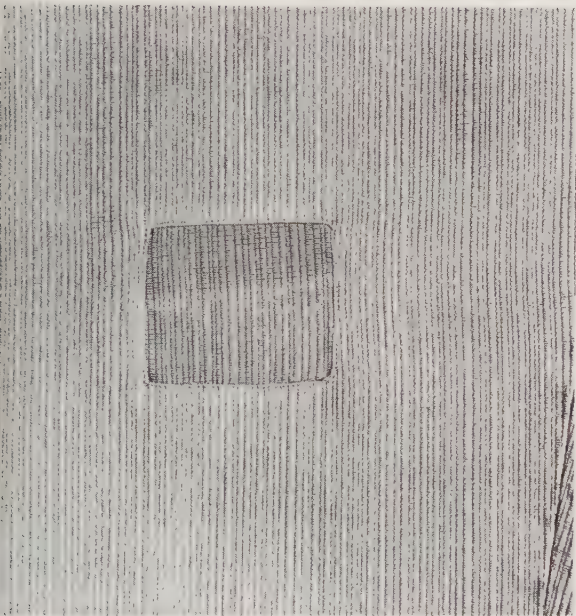


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12-3 This is how the jeans in 12-2 look after they have been patched.



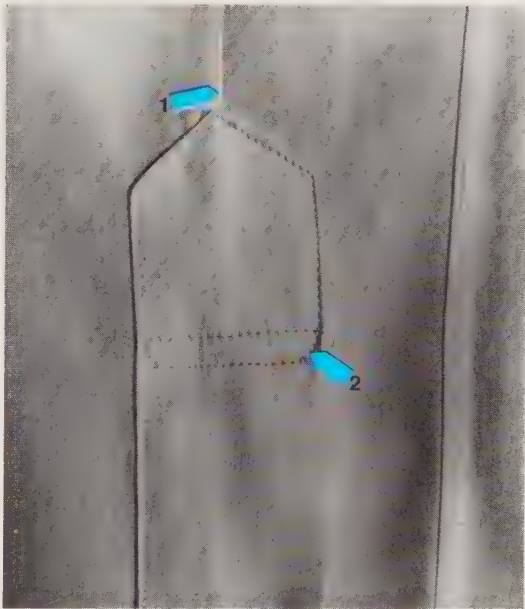
12-4 A small tear in the center of a garment can be patched.



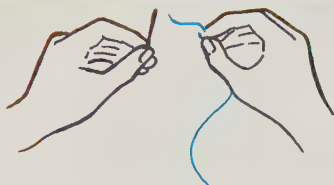
12-5 After the garment edges around the patch have been turned back, topstitching is done to add strength.



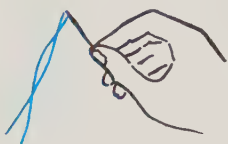
12-6 A shirt sleeve placket is a common place for rips.



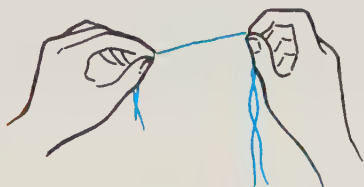
12-7 After sewing the rip, close the placket and sew the point of the placket to the new seam (arrow 1). Use slanted stitches (arrow 2) at the other end of the placket for added strength.



To thread a needle: Cut the thread at an angle, hold the needle still and move the thread through it.



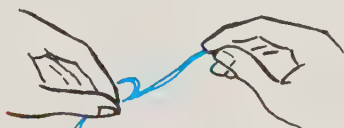
Pull the thread so the ends are even.



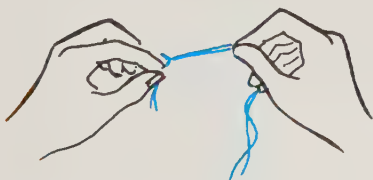
To tie a knot: Hold the thread ends between the left thumb and the first finger.



Bring the thread around the left finger tip, crossing it over the thread ends.



Hold the longer thread tightly and push the thumb toward the finger tip. This makes the thread roll around the loop.

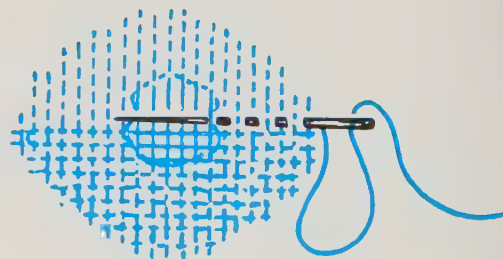


Slip the loop of the finger tip while pulling against the longer thread that is in your right hand.

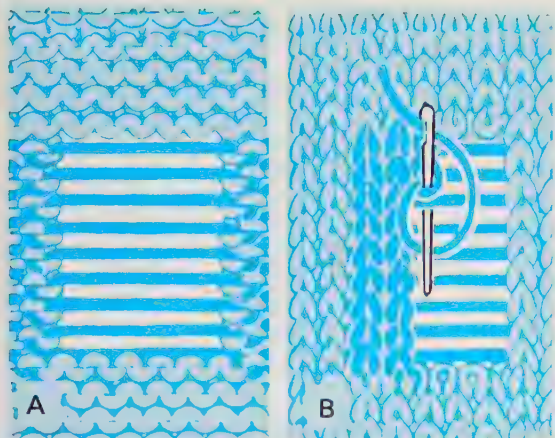
12-8 *Threading a needle and tying a knot are basic sewing skills. After a little practice, they are easy to do.*

Use good light when darning. First, snip away the ragged edges of the hole. Select a thread that matches the fabric or is slightly darker. Cut about 15 inches of thread. Short threads are less likely to form tangles than long ones. Select a fine needle. Now, thread the needle and tie a knot. See 12-8. Work on the right side of the fabric. Fill in the lengthwise threads as close together to the original weave as possible. Do not draw the thread too tightly when you make a turn. Run the stitches beyond the hole to include all the worn spots. Then, crosswise weave over and under the threads. See 12-9. Take small stitches and follow the lines of the weave. This disguises the mend and makes a neat repair. Many new sewing machines have special darning features, too.

You can use a chain-stitch to repair sweaters and other knitted garments. Use matching yarn and a darning needle. Run the yarn invisibly around the area and across the hole as shown in 12-10A. Next, starting at the top, chain-stitch down across yarns as shown in 12-10B. Run the yarn back invisibly, over and under, to the top and begin the second row. Repeat until the hole is filled.



12-9 *Holes in woven fabrics can be repaired by darning.*



12-10 Knitted garments can be repaired by using chain-stitch darning.

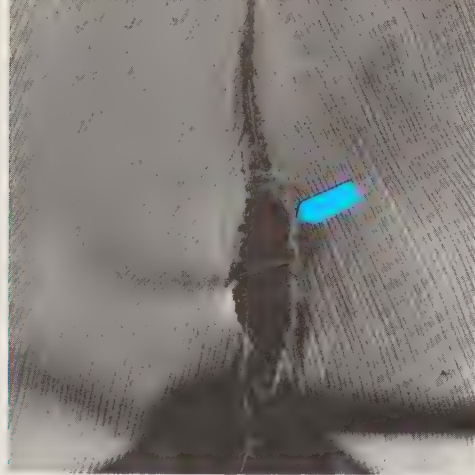
Few people darn holes in their clothing as was done years ago. Still, darning is a fun technique to learn. It can teach you the basics of making fabric!

Repair that rip

A small rip has a way of becoming a big rip! Delaying a repair job just makes it more difficult. If rips are not repaired before the garment is laundered, they will probably be longer rips afterward. Stretching may occur also.

A few stitches by hand or with the sewing machine may be all that is needed. If the rip is in an area that receives much stress, such as the seat or crotch of pants, a double row of stitches would be better. Use a double thread for extra strength if you are sewing by hand. If you do not have the exact color of thread, use a darker shade rather than a lighter one.

Look at 12-11. The seam in the seat of these slacks is ripped. To mend the rip, turn the pants inside out. Pin the seam together and sew with short stitches and strong



12-11 Rips in a seam are easy to repair.



12-12 A double row of stitching prevents fraying and reinforces the seam.

thread. Do not pull stitches too tight if you are hand sewing. Tight stitches may break again under stress. If the seam edges are frayed, trim the loose threads and add a row of stitching close to the edge, 12-12.

The rip in 12-13 was caused by a manufacturer's error. The fly was lapped past the underlay. This caused strain, and a tear developed. A similar tear could result from slacks that do not fit well.

To mend the slacks, clip loose threads from the frayed area. Apply a small piece of iron-on fabric on the underside of the problem section, as in 12-14. Darn over the tear using either hand or machine stitches. Sew back and forth following the pattern of the weave to make it look more like the original fabric.

Quick repairs

Loose buttons can cause problems. The time for action is when you first see one. Resew it immediately. If you do not have time, remove it and put it in a safe place until you can resew it. See 12-15 for the

steps of sewing on buttons.

Lost buttons are worse than loose ones. It is usually difficult to replace a lost button with an identical one. Instead, you may have to replace all the buttons on a garment which can be expensive.

The hooks and eyes as well as the snaps should be kept in good repair on your clothing. Study 12-16 to see how they should be attached.

Tape and safety pins are great in an emergency. But they are for temporary use only. Clothing should be repaired as soon as possible.

Having a repair box could save you time and effort. Most repairs can be made in a few minutes if the equipment is handy. Scissors, needles, buttons, snaps, hooks and eyes, light and dark thread, and a thimble are the items you need.

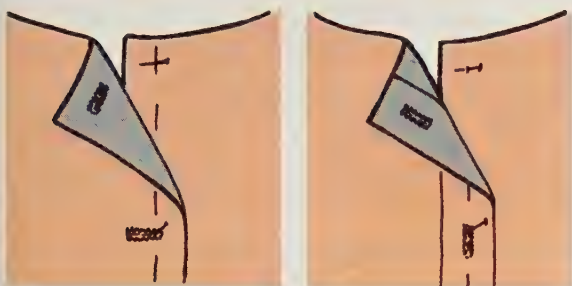


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12-13 Do not throw away slacks that have a rip below the fly. You can repair them.



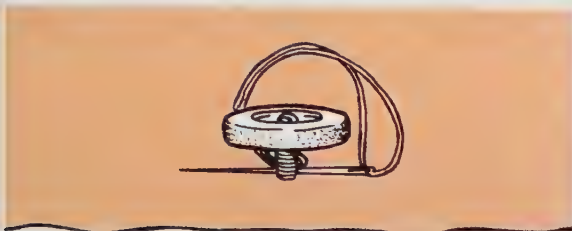
12-14 Iron-on fabric and a few minutes of darning were used to make these slacks wearable again.



(A) Button placement: Close opening of garment. To mark placement of button, place a pin through buttonhole. Slip buttonhole over the pin to open.



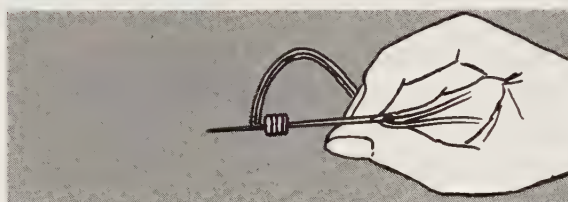
(B) Sew-through button: Place a pin, toothpick or match on top of the button. Bring needle and thread through the fabric and button, over the match and back through the fabric. Repeat five or six times.



(C) Remove match and pull button up. Bring threaded needle between garment and button. Wind thread around button stitches several times to make a shank. (Shanks raise buttons from garment to allow room for the button hole to fit smoothly beneath it.) Pass thread to underside of garment and fasten securely.



(D) Shank button: Shank buttons need an additional thread shank, but it can be smaller than the shank for sew-through ones. Sew the button on loosely. Then wind the thread under the button to form the thread shank.

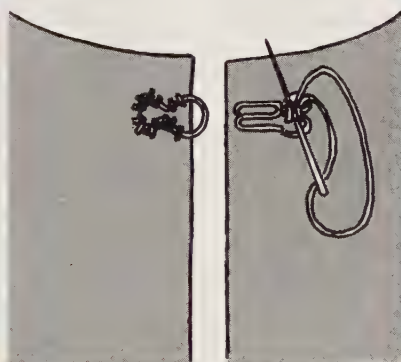


(E) Pass threaded needle to underside of garment and fasten with several stitches.

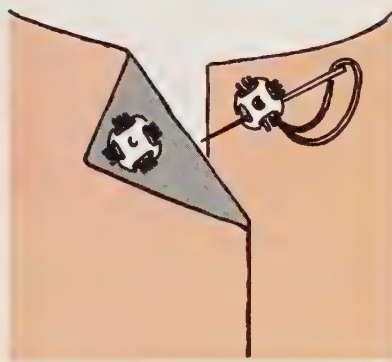
12-15 Mark the placement of buttons. Mark with needle and thread, sew the buttons in place, and make a thread shank. Secure the thread on the underside.



(A) Hook and eyes: Use the bar eye for edges that lap.



(B) Use the round eye for edges that meet.



(C) Snaps: Use snaps for closings where there is very little strain.

12-16 Attaching hooks and eyes and snaps is easy.

Altering for better fit

If a garment doesn't fit well, it may need to be altered. An *alteration* is a change made to a garment so that it will fit properly. A garment is altered to decrease or increase its length or width. Perhaps you like a pair of slacks or jeans, but you just don't feel right wearing them because they are too long or too short. Maybe you have a nice skirt or pants, but you avoid wearing them because the waistband is too loose or too tight. Some simple alterations may make the garments fit better, and you will enjoy wearing them more often, 12-17.

Altering length. Often, one of the easiest alterations is changing the length of a garment. Hems of jackets, pants, dresses, skirts, tops, and sleeves can all be hemmed to adjust the length.

If you plan to lengthen a garment, be sure to check the existing hem allowance to see if the existing hem will allow for the extra length. If you are shortening a garment, and the new hem is too deep, you may need to trim away some of the hem depth.

To alter the hem of a garment, remove the existing hem. Press out the crease. Next, try on the garment. Ask a friend or family member to pin the hem in place. (Hemming methods are discussed in Chapter 23.)

Altering width. Changing the garment width can be a minor or a complex task. Sometimes, all that is needed is to move a hook or button. Other times, both sides or the front and back of a garment need to be changed.

Remove the stitching in areas that need adjustment. Pin new seams in place. Be sure to evenly distribute the decrease or increase among all seams. The more seams

that a garment has, the easier it will be to alter its width. Try on the garment, and check the fit.

When letting out a garment, or making it larger, sew the new seam *outside* the old seam in the seam allowance. It is important to always check the width of a seam allowance to be sure it is wide enough to sew a new seam. When taking in a garment, or making it smaller, sew the new seam *inside* the garment. After making the new seams, remove the old stitching and press.



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12-17 To achieve a perfect fit like this dress, sometimes it is necessary to do some alterations. If this dress is too long, it would be simple to shorten.

REDESIGNING CLOTHES

Redesigning a garment means to change it in its appearance or function. Redesigning is a good way of expanding your wardrobe at little or no cost. Redesigning includes restyling, adding decorative features, or changing the color of a garment.

Redesign shirts and blouses by changing long sleeves to short sleeves or by dyeing them. You can add decorative trim to an



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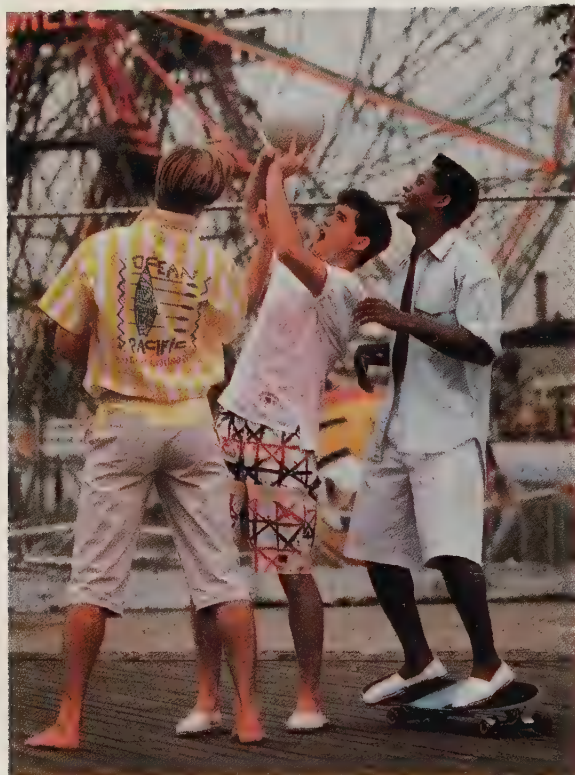
12-18 Girls can restyle a jumper into an attractive vest. Wear the vest with a skirt or slacks.

old garment or dye it a new color. Liven up a tired-looking jacket by adding a decorative touch such as an appliqué. Give an updated or original fashion look to T-shirts by tie-dyeing or painting. Through redesigning, you can add your personal touch to any garment.

Restyling

By *restyling* a garment, you can give it a new and different look. See 12-18. The easiest way to restyle jeans that are too short is to cut off the lower part of the legs. Jeans then become a pair of “cut-offs” or shorts to wear to the beach or around the house. Girls could use their old jeans to make a denim skirt. First rip open the leg seams to the crotch and press them flat. Place a skirt pattern over both jean sections (front and back). Match the waistline of the pattern to the waistline of the jeans. Draw marks on the skirt pattern to show the space left between the legs of the old jeans. Use the marks as a guide to cut a section of other fabric to fill this triangular space. Complete the skirt by hemming the bottom edge. The project is simple because the waistband, belt-loops, zipper, and pockets are already made.

Restyling is not limited to jeans. You can also restyle pants that are too short. Cut them off to the length you like best: walking shorts or short-shorts. Be sure to allow enough length for a hem, 12-19. If the pants have wide legs, make knickers out of them. Cut them off below the knee and hem them. Then insert elastic into the hem for a snug fit. If pant legs are flared and the fashion is straight legs, make the legs straight. Restitch both the outer and inner seams. Be sure that the amount you take in is exactly the same for both legs.



SPIEGEL, INC.

12-19 *Pants can be restyled by cutting them off to make shorts for casual wear.*

By removing the sleeves from a sweater or jacket, you can make a vest. The armholes will have to be finished with overcasting or by sewing a folded trim over the edges. Change long sleeves into short sleeves by cutting off the old sleeves and hemming the edges. A coat can be restyled into a jacket by cutting off the lower edge and rehemming the garment. New buttons may be added for an updated look. A too-large sweatshirt could be restyled for a new look. Cut off the cuffs and lower edge. Hem the edges and insert elastic at the wrists and waistline.

Some dresses may be made into jumpers by removing the collar and sleeves. Finish

the cut edges. If a dress has a full skirt, you may want to slim it down with larger side seams. If the skirt is narrow, you could make side slits starting at the hem.

Updating with accessories. Add new accessories with old garments to give them a new look. Look through fashion magazines, pattern catalogs, and displays in stores to find the latest trends. A new belt, scarf, necktie, or jewelry can update last season's styles.

Appliqués and trims

Appliqué is done by sewing one or more small pieces of fabric to a larger piece of fabric or a garment. Appliqués add a decorative touch to your clothes. They are made of small pieces of fabric that are cut into any shape. If you need help with ideas, borrow some from ready-mades. See the frog in 12-20.



12-20 *To get ideas for appliqués look at some ready-mades. You could make a frog from leftover scraps of fabric. Use an embroidery stitch to attach it to your garment.*

The appliqués can be made from a pattern. You can buy appliqué patterns in fabric stores, or you can draw your own designs. Your trees, houses, animals, or flowers do not have to look real. Use your imagination and have fun. It can be fun to create designs like the ones in 12-21. Draw the design on paper first. Then cut it out and use it as a pattern when cutting the fabric.

Using a zigzag stitch on a sewing machine or the serger is a good and easy way to finish the edges of an appliqué. For a neat look, you can trim close to the stitching. When you sew the appliqué to the garment, fewer stitches will be needed to keep the edges from fraying.

If you want to embroider on an appliqué, do it before you attach it to the garment. You will have less fabric to handle.

When applying an appliqué or trim to a

garment, first pin it in place. In this way, you can try different placements and choose the best location.

Curves are easier to attach than points. If your appliqué has points, sew it on the garment with close stitches. Hand embroidery stitches can also be used to apply an appliqué.

Another way to apply an appliqué to a garment is to use *fusible fabric*. This sheer fabric is covered with a thin layer of plastic adhesive. Cut a piece of fusible fabric the same size or a bit smaller than the appliqué. Place it between the appliqué and the garment. Apply steam with an iron and the fusible fabric will fuse (join) the other two fabrics. The appliqué will stay attached to the garment even when it is washed or dry cleaned.

Trims and decorative, programmed machine stitching can be used to decorate everyone's clothing. 12-22. Trims can be

12-21 It can be fun designing appliqués for your clothes. You might appliqué clothing or other articles as gifts for your family and friends.

THE McCALL PATTERN COMPANY



12-22 Decorative, programmed machine stitching adds pizzazz to clothing. It can create a total effect.

THE McCALL PATTERN COMPANY



used to cover the crease line created by lowering a hem. Whenever you use a decorative technique such as trim, consider applying it to more than one area of the garment to create a total effect. For instance, if you use decorative trim at the hem of a garment, repeat the use of the trim on the sleeves or the collar.

Dyeing

A fun and easy way to change the looks of some of your clothes is by *dyeing* or recoloring them. You can make a light garment darker or a dull one brighter.

Dye can be bought in liquid or powder form. Many colors are available. Interesting effects can be made with combinations of colors. Use your creativity.

Dye only clothes that are washable. Some fibers will not take dye. Measure the garments you think may shrink. After dyeing, measure them again. You may need to press or stretch them to get them back into shape. For knitted garments, such as sweaters, you should draw the entire outline on paper so you can match the shape after dyeing.

Be sure to have enough dye on hand for the amount of fabric you plan to dye. Check the package for help. Use hot water, rinse thoroughly, and dry. And remember the most important part — follow the manufacturer's directions!

Tie-dyeing

Tie-dyeing is a method of dyeing where sections of fabric are folded or gathered and tied tightly with string or wrapped with rubber bands. When the fabric is dyed, the tied or wrapped portions resist (do not absorb) the dye, resulting in a design. Tie-dyeing is a *resist* type of fabric dyeing.

Tie-dyeing can be done before or after a garment is made. It is a thrifty way to change some tired-looking garments and a neat way to have something that is one-of-a-kind. The excitement is often from the surprise of your finished product. All types of garments plus fabric handbags, backpacks, belts, shoe laces, and socks are possibilities. Always follow the directions of the dye manufacturer.

With careful planning, you can create your own special design. The stripe, donut knot, and rosette knot are the basic patterns. Study 12-23 to see how they are made.

Tie-dyeing was one of the earliest known methods of decorating fabric. It is still popular today. It is especially fun when friends have a tie-dyeing session.

Fabric painting

Another fun way to add color to your clothes is to paint them. Colors can be applied with a brush, pen, or marker. Fabric paints were used on the sweatshirt in 12-24. Designs can be painted with acrylic oil paints. These paints are washable. They come in ready-to-use tubes. Many colors are available.

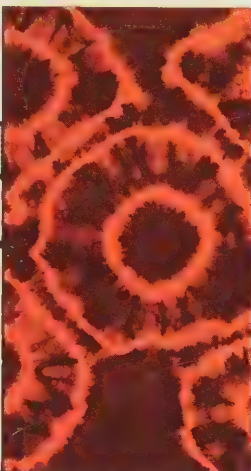
You can have fun creating your own designs on items such as jogging outfits, T-shirts, jeans, or canvas bags. Or you can purchase patterns to follow.

RECYCLING CLOTHES

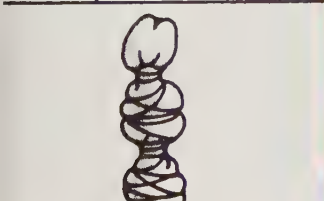
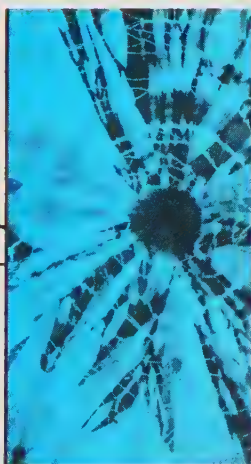
Recycling means to reuse. With clothing, this means finding ways and methods of extending the use of garments. You can pass clothing along for someone else to use. Or you can make something entirely new out of a garment. Recycling clothes is a way of



Stripe: Lay fabric on a flat surface. Mark the places where you want stripes. Gather the fabric and tie tightly. Use many strings or rubber bands for a wide stripe, or a single string or band for a narrow stripe.

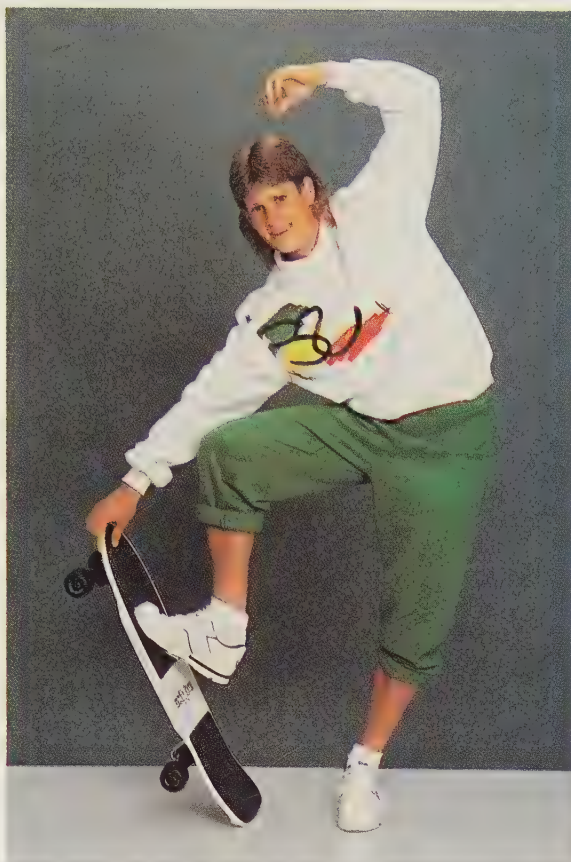


Donut knot: Begin as if you were making a rosette knot. Then push the center through to the other side. Secure tightly with string or rubber bands.



Rosette knot: Pull a section of fabric. Fasten tightly with string or rubber bands. Add more ties to get the sunburst variation which is shown.

12-23 Basic tie-dye patterns are easy to produce.



PINEAPPLE APPEAL

12-24 With a little creativity and some fabric paints, you can change the looks of a plain sweatshirt.

conserving resources. Throwing clothes away is a waste that none of us can afford!

Passing clothes along

You may have some garments that are in good condition. If you cannot wear them or redesign them, you may want to consider passing them along to someone else.

In many families, passing clothes along to younger sisters or brothers has been a custom for years, 12-25. A familiar term is "hand-me-downs." Families often pass clothes on to relatives or friends when their



WRANGLER

12-25 Clothes are often recycled among family members. Since children outgrow more clothes than they wear out, the clothes are often passed on to younger sisters and brothers.

families can no longer use them because of size. Your size often changes at a rapid rate until you are well into your teen years. Therefore, you will probably outgrow more clothes than you will wear out completely.

Friends sometimes have a swap party. They bring garments that they no longer wear to the party. Each person trades a gar-

ment or garments for someone else's garments. Clothing that is no longer the right thing for you may be a real find for someone else. For instance, you may bring a blue jacket that you no longer wear to the party. Your friend likes the jacket. You may want to trade the jacket for the gray sweater your friend has brought to trade. You could both add something to your wardrobes without spending any money.

There are many charitable groups that give or sell clothing at a small cost to the needy. Your usable, but unwanted, clothing could help the less fortunate. Some of these organizations are Goodwill, Red Cross, Salvation Army, and various religious groups. In many cases, they may help families facing poverty or families who have lost their belongings in a flood, fire, or other disaster. Knowing that your unwanted clothing is being used by someone who needs it can be a good feeling. Some organizations have a pick-up service to collect donations of clothing. Such donations are usually tax deductible.

You may also want to sell your unwanted clothes. You can earn some money by selling clothes to used clothing stores. Yard and garage sales, flea markets, and bazaars can be fun and profitable. They are often planned by several persons or families.

New life for old clothes

When you are sure you can no longer wear a garment and neither can anyone else, what can you do with it? It may be possible to recycle the usable section of the garment. Use them to make accessory items such as pot holders, makeup pouches, or shoe bags for your luggage. These items could be useful as gifts for others or for

your own use at little or no cost.

Sometimes fabric from old clothes can be used to make clothes for children. For instance, an old dress may be used to make a shirt for a child.

Children love to play "dress-up." A box of old clothes can provide many hours of fun. Old clothes make good sources of

play and masquerade costumes, too, 12-26.

If you have cut off a pair of jeans to make cut-offs, use the leftover fabric to make a "draft dodger." A draft dodger stops chilly drafts that sneak in under doors and windows. You can give your draft dodger a creative touch by adding a face at one end, 12-27.

If you have outgrown a pair of jeans, you might use them to make a tote bag or backpack. Cut off the legs just below the crotch. Turn inside out and sew the legs together. Tote bags are great for carrying all your school supplies, from books to pencils. Backpacks are a big help for anyone who rides a bike. You can also use other outgrown clothes to make tote bags.

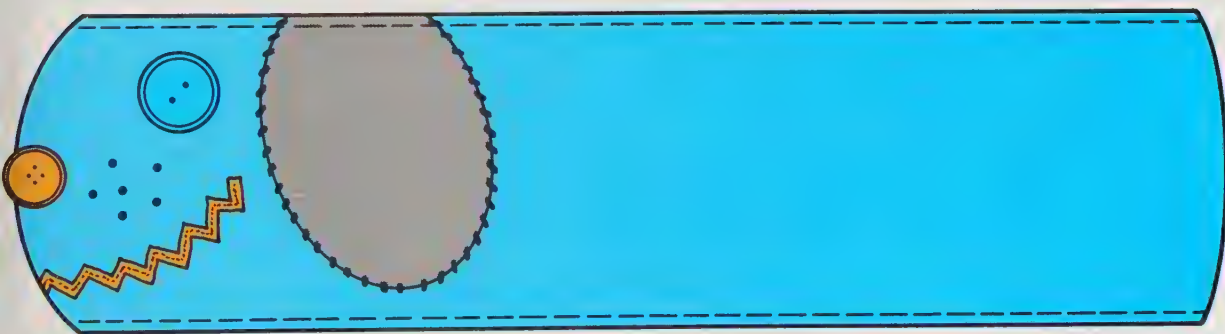
Use your recycling skills to make a cap or a pair of mittens from an old sweater. See 12-28 and 12-29. If the sweater is large enough, perhaps you can get a matching hat and pair of mittens from the same sweater.

Through patchwork you can use your artistic talents. *Patchwork* is sewing pieces and shapes of fabric together. They are

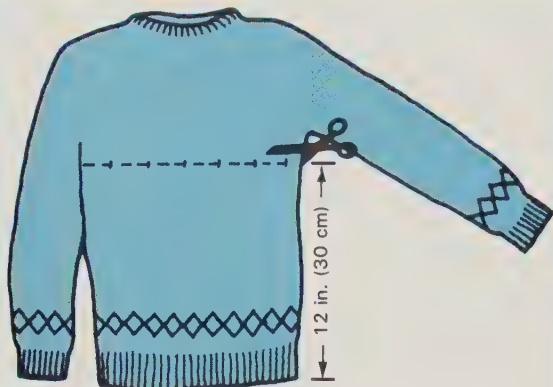


TYKE CORPORATION

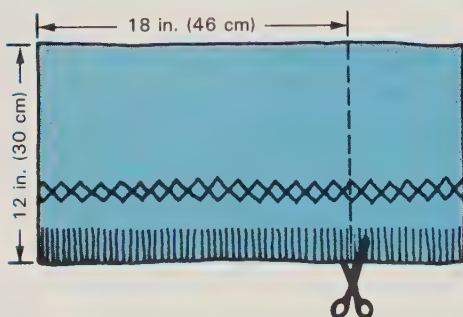
12-26 What fun it is to play "dress-up" with old clothes! Some old clothes can be used for Halloween costumes, too.



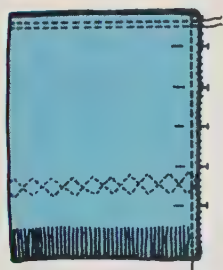
12-27 You can conserve energy and recycle the cut off legs of jeans at the same time by making a "draft dodger."



1. Lay sweater out flat and match bottom edges. Measure up from the lower edge 12 inches (30 cm) and mark with pins.



2. Cut off the lower section of sweater along line of pins. Cut open one side seam and lay flat. Measure 18 inches (46 cm) and cut.

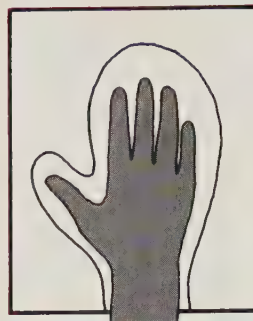


3. Fold to bring short edges together. Right sides should be inside. Pin side seam. With matching yarn, stitch side seam. Make the top of the cap by placing two rows of running stitches $\frac{1}{4}$ inch (6 mm) and $\frac{3}{8}$ inch (1 cm) from the cut edge of the fabric opposite the ribbing. Pull these threads up tight on the wrong side and fasten securely. This makes the top of the cap.

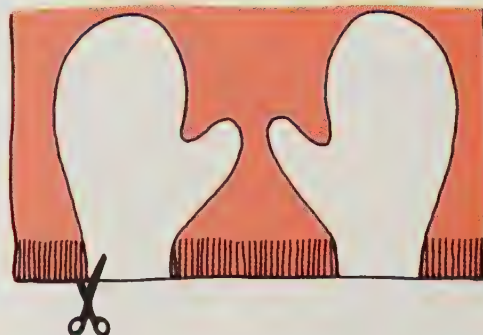


4. The finished cap should look like this.

12-28 It's easy to get a new cap from an old sweater.



1. Make a pattern on paper.



2. Place paper on sweater with wrist edge on the ribbed section of the sweater. Cut two mittens for the left hand and two for the right hand.



3. Sew mittens together using matching yarn.



4. Decorate mittens.

12-29 You can recycle an old sweater to make a warm pair of mittens.

often of different textures and designs. Patchwork quilts are popular. However, you could make a patchwork covering for your bed without quilting it. The covering would be like a bedspread. You can also make tote bags, placemats, stuffed toys, and pillows from patchwork. Clothing, such as a vest, can be made by using patchwork designs. Patterns and ideas are available in craft stores and magazines. Be sure to use fabric that is firmly woven. Each section should be similar to other sections in terms of care. For instance, denim and heavy cotton flannel would require the same care.

When garments are too worn to be

recycled into other useful items, they can be used for cleaning cloths. Household rags may be needed for washing woodwork, dusting furniture, or washing the car. Be careful to cut off any buttons or other fasteners that could scratch furniture or the paint on a car. Old buttons and fasteners can also be recycled for later use.

Fabrics made of 100 percent cotton or cotton blends often make the best rags because they are soft and absorbent. Fabrics made of other fibers that aren't suitable as rags can be used for stuffing pillows and toys, 12-30. Use your imagination to come up with new and different ways to recycle clothes.

12-30 Some fabrics can be recycled to make stuffing materials for stuffed animals.



PINEAPPLE APPEAL

to know

alteration	patchwork
appliqué	recycling
darning	redesigning
dyeing	restyling
patching	tie-dyeing

to review

1. List three methods of reviving clothes you no longer wear.
2. In repair work, if you do not have the exact color of thread, should you use a lighter or darker one?
3. Explain the steps in repairing slacks or jeans that have a hole in the knee.
4. Which of the following is for temporary repairs only?
 - a. Safety pins.
 - b. Snaps.
 - c. Hooks and eyes.
 - d. Patches.
5. When would chain-stitch darning be used to repair a garment?
6. (True or False) When letting out a garment, or making it larger, sew the new seam inside the old seam allowance.
7. How could you restyle a long-sleeved shirt whose sleeves are too short for you?
8. List the correct order of these steps.
 - a. Draw a design for an appliqué on paper.
 - b. Trim close to stitching.
 - c. Sew it on garment with small stitches.
 - d. Cut your design out of fabric.
 - e. Use a zigzag stitch to finish the edges.
9. Which is NOT one of the basic tie-dyeing patterns?
 - a. Rosette knot.
 - b. Donut knot.
 - c. Stripe.
 - d. Circle.

10. What kind of paint can you use to "paint" fabric?

11. List three ways you could restyle or recycle worn jeans.

12. List four ideas of your own for recycling garments you no longer wear.

to do

1. Bring an article of clothing to class that you no longer wear. Combine all garments and let the class decide, one by one, how to repair, redesign, or recycle each.
2. Bring a garment to class that you have repaired, redesigned, or recycled. Describe the technique you used.
3. Assemble a clothing repair box. Give a reason for including each item.
4. Bring old, clean jeans to class. Cut the large, usable areas into sections. Distribute them to classmates who are short of patch material.
5. Caption a bulletin board, "Cures for Sick Clothes." Display pictures of redesigned garments.
6. Create an original design for an appliqué or fabric painting project.
7. Display the step-by-step technique of appliqué on the bulletin board.
8. Make a list of recycling ideas by having each person contribute one. Have the list published in the local or school newspaper.
9. Have a clothing swap party. Discuss the result of the clothing swap in class.
10. Bring clean clothing that you no longer wear to class. Sort it according to age groups. Deliver the clothing to a charitable organization.



Chapter

13

Keeping Clothes Clean

After studying this chapter you will be able to

- demonstrate how to remove various types of stains.
- explain how using information on care labels can help you to obtain good laundry results.
- choose the laundry product best suited to a certain laundry task.
- evaluate various clothing-care products.
- describe how to properly and safely wash and dry clothing.
- demonstrate how to use major clothing equipment aids such as a washer, a dryer, and an iron.
- explain the difference between pressing and ironing.
- describe methods of storing clothes.

What do you do with your clothes at the end of the day? Instead of tossing them on to a chair, take a minute of your time and put your clothes and accessories where they belong. Do they need to be cleaned? Do they need a repair? Can they be worn again? You are the one who knows what your clothes need, and right then is the time to make the decisions. See 13-1.

If some of the garments can be worn again, put them on a hanger. Close zippers and buttons to keep them from becoming wrinkled or twisted in a crowded closet. Fold sweaters carefully and put them in a drawer. They could stretch out of shape on a hanger.

OUTSMARTING STAINS

A *stain* is a spot or discoloration caused by various liquids or solid materials. If you find a spot or stain on a garment, do something about it quickly. Do not wait to find it again just as you are ready to go somewhere. Removing stains is easier than you may think. Most common ones can be

KEEPING YOUR CLOTHES READY TO WEAR

Decide if a garment is to be worn again.

Search for and remove any stains or spots.

Hang garments together that need repairs. If they are put in a special place, they can be found when you have time to work on them.

Put dresses, jackets, shirts, and coats on hangers.

Pin skirts to hangers.

Fold pants over hanger or use pants hangers.

Fold sweaters. Place in drawer or on shelf.

If shoes are damp from wearing, let dry before putting them away.

Wipe dust or dirt from shoes before putting them in the closet.

13-1 Keep your clothes ready to wear by following these tips.

removed if you are:

1. Prompt.
2. Patient.
3. Persistent.

Be prompt. Treat stains as soon as you see them. Fresh stains come out more easily than old ones. You cannot see some stains until they have been in the garment for awhile. Then a yellow spot appears. Ironing over a stain will often make it impossible to remove. Take your non-washable garments to the dry cleaners as soon as possible. Be sure and tell them what the stain is if you know.

Be patient. Use the stain removal procedure that is recommended for the stain and the type of fabric. Otherwise, you may damage your garment. If it is worth saving, it is worth a little extra time and effort. Stains on durable press fabrics are sometimes difficult to remove. This is because of the chemical finish that is on them.

Be persistent. You may have to try to remove the stain several times before you succeed. If the first treatment does not work, try a different method. Knowing what the stain is will speed the process. There are water-based and oil-based stains. *Water-based stains* include fruit, vegetables, soft drinks, coffee, and tea. *Oil-based stains* include cosmetics, grease, carbon paper, candle wax, motor oil, and tar. Water-based stains are removed by a wet process, usually detergent and water. To remove oil-based stains, use a dry process with a solvent or spot remover.

First aid kit for stains

You are more likely to remove a stain if you use the right materials. In the laundry area, you should keep detergents, bleaches, dry-cleaning solvents, clean white cloths, and white paper towels or facial tissues. A chart as in 13-2, with a listing of stains and removal procedures, should also be in this area. Keep the cleaning materials beyond the reach of children.

Successful stain removal

Soaking. If your garment is washable, try soaking it in water. *Soaking* is covering an article of clothing with water and soap or detergent for a length of time such as for a few hours or overnight. Gently rub the stained area between your fingers. This will remove many non-greasy stains.

Detergent. Wet the stained area. Then pour undiluted detergent on it. Wait a few minutes before washing or rinsing the garment. You may need to soak it longer or to use a heavy-duty detergent. (Detergents are discussed further in this chapter.)

Prewash spray. Products that help remove oily stains and soil are called

ADHESIVE TAPE

Remove as much gummy material as you can with a dull knife. Do not scrape too hard, or the fabric will be damaged. Apply cleaning fluid or spot remover. Remove any additional material that has been dissolved. Wash with detergent.

BALLPOINT INK

Laundering will remove some types of ballpoint ink, but it sets other types. To see if the stain will wash out, find a similar scrap of fabric. Mark it with the ink and wash it. Acetone (nailpolish remover) will usually remove fresh stains, but do not use acetone on synthetics. Old stains may require bleaching. Rubbing alcohol will remove some types of ink. Then wash as usual.

BLOOD

Soak stain in cold water. Rinse. Rub a heavy-duty detergent into the spot, then launder as usual. If the stain remains, use a few drops of ammonia and launder again.

CANDLE WAX

Rub the stain with ice and scrape off as much wax as possible. Then place the stain between several layers of white facial tissue. Press with warm iron. If any stain remains, apply cleaning fluid or soak in a solution of rubbing alcohol and warm water (1/2 cup alcohol to 1 cup water).

CARBON PAPER

Apply a prewash soil and stain remover or sponge with nonflammable dry cleaning fluid. If stain remains, put a few drops of household ammonia on stain. Repeat with detergent treatment. Wash. Rinse.

CAR GREASE

Most of these stains can be removed by rubbing a heavy-duty detergent into the stain. Let it stand for several hours or overnight. Wash in warm water. If the stain remains, put cleaning fluid on it and wash it again.

CHEWING GUM

Make the gum hard by putting ice on it. Remove as much as you can with a dull knife. Put cleaning fluid on the remaining spots. Then launder in hot, soapy water.

CHOCOLATE

Soak stain in cool water for at least 30 minutes. Rinse. If stain remains, work heavy-duty detergent into the stain. Then rinse thoroughly. If the stain looks greasy, apply cleaning fluid.

COFFEE OR TEA

Soak in pre-soak product or oxygen bleach. Use the hottest water that is safe for the fabric. Wash.

COSMETICS — (eyeshadow, lipstick, liquid makeup, mascara, rouge)

Apply undiluted, heavy-duty, liquid detergent to stain. Work with your fingers to form suds. Rinse well. A second application may be needed. If the garment is not washable, use a spot remover. Rub the edges of the stain lightly with a cloth. This will prevent a circle from forming.

DEODORANTS AND ANTIPERSPIRANTS

Rub liquid detergent on stain. Wash in the hottest water that is safe for the fabric. Short-time soaking is needed if stain is heavy.

GRASS AND FOLIAGE

Dampen spot. Rub detergent in well. Wash garment as usual. If stain remains, use bleach according to manufacturer's directions.

ICE CREAM OR MILK

Sponge with drycleaning solvent or a prewash soil and stain remover. Rub stain between fingers to help remove it. Launder. Repeat if necessary.

NAIL POLISH

Use nail polish remover. Before using, test a scrap or small area to be sure it will not cause damage. Do not use remover on furniture surfaces or acetate fabrics.

FRUIT — FRUIT JUICES, SOFT DRINKS, PUNCHES

If possible, sponge with cool water as soon as it happens. Do not use soap. Some fruit juices, especially citrus ones, are invisible after they dry. They turn brown or yellow on aging or when ironed. If safe for fabric, pour boiling water on stain from three feet above. If stain remains, bleach the garment if possible. Apply white vinegar if bleach cannot be used. Launder again.

PERSPIRATION

Pre-soak by wetting the area and applying heavy-duty detergent. Wait one hour. Then wash in hot water. If odor remains, soak garment in 2 tablespoons of baking soda to one gallon of water overnight. Wash as usual.

SCORCH

Soak in pre-soak product. Launder. If stain remains, bleach and wash again.

prewash sprays. Prewash sprays are used on hard-to-clean areas. For instance, when a prewash spray is used on the neck edges of shirt or blouse collars, they become cleaner, 13-3. To get the best cleaning action, be sure to follow the directions on the prewash spray bottle label.

Bleach. Chlorine bleach is identified by the word “hypochlorite.” Use it in wash water according to the manufacturer’s directions. Caution! Never use it on wool, silk, glass fiber, or any garment with a label that warns against its use. Do not pour chlorine bleach directly on clothes. Instead, put it in the water before you add the clothes.

Oxygen bleach is identified by the words “perborate” or “all-fabric.” It is mild and can be used on most colored fabrics. Follow directions. You may need to soak the garment.

Solvents. Sometimes, a *solvent* is used to dissolve stains. Use solvents to remove makeup and greasy stains. There are many brand names, but most are labeled “cleaning fluid” or “spot remover.” Some are flammable, and some are poisonous. Read all label warnings. Use them only in a well ventilated place.

When using a solvent or dry-cleaning fluid, first place the stained area on an absorbent surface — a soft cloth, paper towels, or facial tissues. Put the stained side down so the stain can be washed out of the garment, not through it.

Dampen a soft cloth or pad of cotton with the solvent. Apply the solvent to the stain using a soft brushing or tapping motion. Work outward from the center. Brush the edges often to prevent a circle from forming around the stained area. Changing the absorbent pad under the fabric will



LITTLE KIDS, INC.

13-3 Little children often get stains on their clothing. Treat all stains as soon as possible so they will be easier to remove.

keep the stain from going back into the fabric.

DOING LAUNDRY THE RIGHT WAY

In many homes today, all of the adult members work outside the home. Everyone must help with the duties of homemaking. You can convince adults you are growing up by helping to keep your home running smoothly. Perhaps you could help with the family laundry, 13-4.

In 1972, the Federal Trade Commission issued the Care Labeling Rule. This requires that all wearing apparel (except hosiery) give clear and complete directions

for regular care and maintenance. In 1984, the Care Labeling Rule was revised. The information listed on labels must be more detailed and complete. A label that recommends washing must state the washing method, such as machine or by hand. The safe water temperature must also be listed, along with safe drying and ironing methods. (See Chapter 15 for more details.)

Exceptions may be granted for the following:

1. Articles whose utility or appearance may be impaired (destroyed) by a permanent label.
2. Articles which are completely washable under normal circumstances.
3. Articles which are intended to sell at retail for \$3.00 each or less.



WHIRLPOOL CORPORATION

13-4 An attractive, well-organized laundry area makes laundry easy to do.

Guesswork and mistakes in doing laundry have been greatly reduced because of this regulation. If the care labels are left in place, you can refer to them before washing a garment. These labels are often found at the center neckline, in the seam, or in the front facing below the waistline. Examples of various care labels are shown in 13-5.

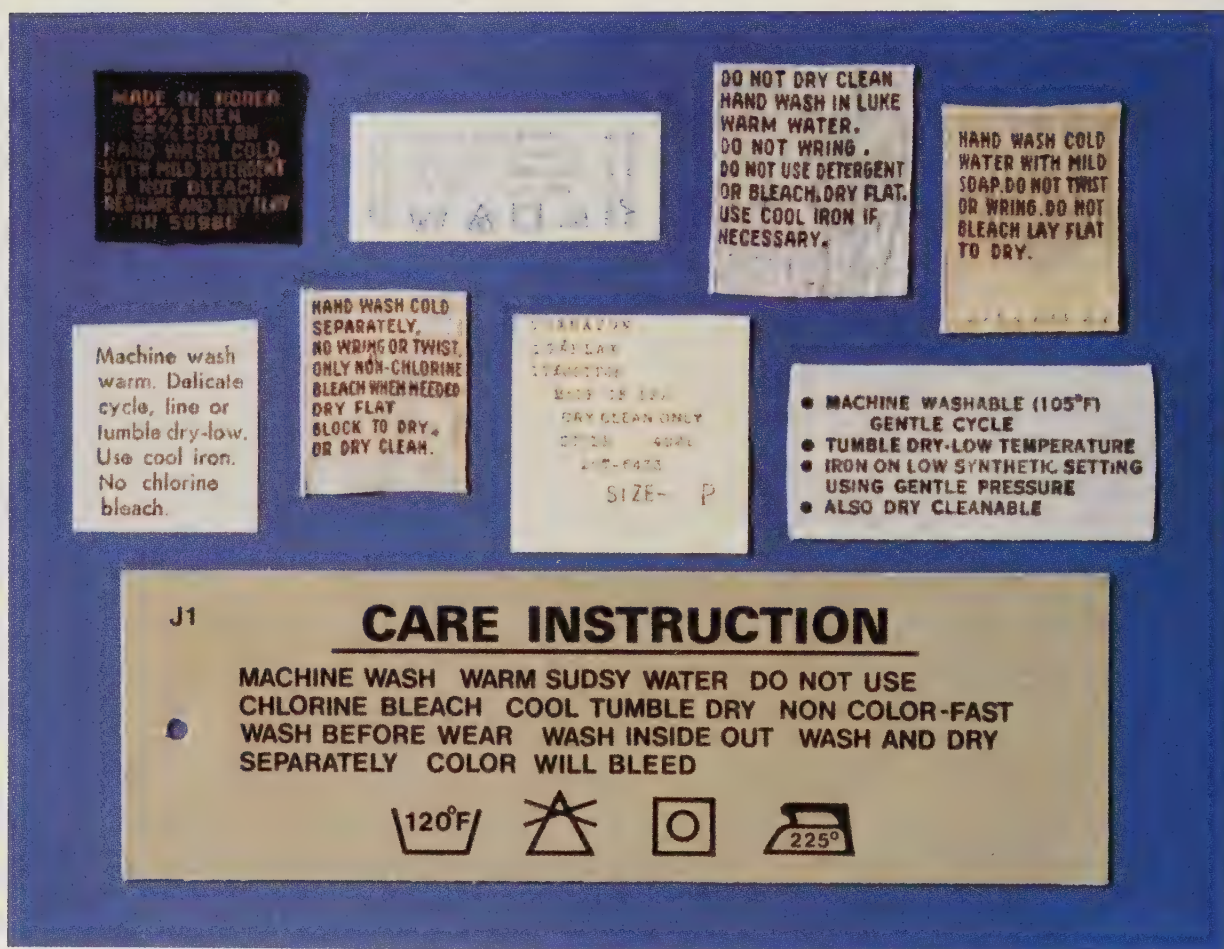
Preparing clothes for washing

Look carefully at each garment before washing it. Remove all items from the

pockets — folded notes, gum, and pencils. A facial tissue left in a pocket will cover your clothes with lint.

If a large metal fastener or buckle cannot be removed from an item, it can be tucked inside the fabric and basted in place. Sometimes items can be hooked or buttoned shut or secured inside a pocket. This prevents damage to the washer basket, to other clothes, and to the item.

Close zippers, hooks and eyes, and buttons. Shake dirt from cuffs of slacks.



13-5 Look for care labels like these in your clothes.

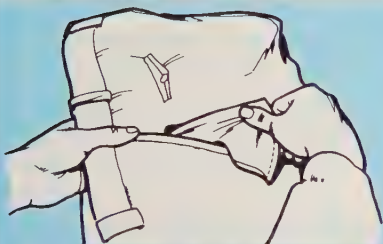


LITTLE KIDS, INC.

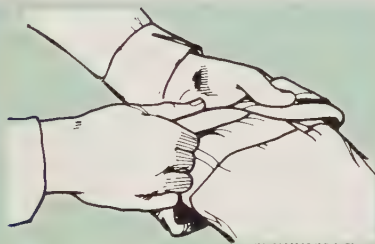
13-6 *The chocolate stain on this toddler's shirt will be difficult to remove. Be sure to pretreat it before laundering.*

Loosely knot together long belts or stockings. Turn knits inside out to prevent snagging. Remove any stains, 13-6. This will help to prevent them from setting permanently with hot water. See 13-7 for tips on preparing clothes for washing.

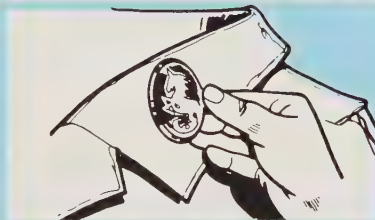
A good idea and time-saver is to keep all of your care labels and hangtags. Write a description of the garment on each one. Arrange them in a small box and keep it in the laundry area. If you do not know how to wash a garment, you can refer to its care label. The terms found on these labels are explained in 13-8.



Make sure all pockets are empty. Turn them inside out.



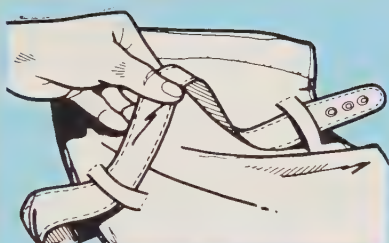
Turn down cuffs and brush away lint and dirt.



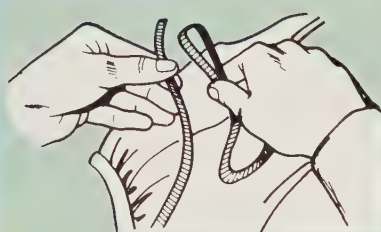
Remove pins, buckles and other hard or sharp objects to avoid scratching the washer basket or snagging other items.



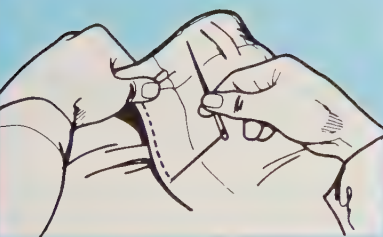
Close zippers, snaps and hooks to avoid snagging other items in the load.



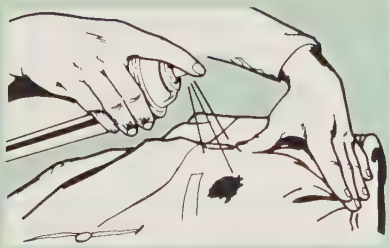
Remove unwashable trim and ornaments.



Tie strings and sashes so they won't tangle.



Mend tears, loose hems, and seams.



Treat spots and stains.

13-7 *Taking steps like these before washing can pay off with better results.*

WHEN LABEL READS:		IT MEANS:
MACHINE WASHABLE	Machine wash	Wash, bleach, dry, and press by any customary method including commercial laundering and dry cleaning.
	Home launder only	Same as above but do not use commercial laundering.
	No chlorine bleach	Do not use chlorine bleach. Oxygen bleach may be used.
	No bleach	Do not use any type of bleach.
	Cold wash Cold rinse	Use cold water from tap or cold washing machine setting.
	Warm wash Warm rinse	Use warm water or warm washing machine setting.
	Hot wash	Use hot water or hot washing machine setting.
	No spin	Remove wash load before final machine spin cycle.
	Delicate cycle Gentle cycle	Use appropriate machine setting; otherwise wash by hand.
	Durable press cycle Permanent press cycle	Use appropriate machine setting; otherwise use warm wash, cold rinse, and short spin cycle.
	Wash separately	Wash alone or with like colors.
NON-MACHINE WASHING	Hand wash	Launder only by hand in lukewarm (hand comfortable) water. May be bleached, may be dry-cleaned.
	Hand wash only	Same as above, but do not dry-clean.
	Hand wash separately	Hand wash alone or with like colors.
	No bleach	Do not use bleach.
	Damp wipe	Clean surface with damp cloth or sponge.
HOME DRYING	Tumble dry	Dry in tumble dryer at specified setting — high, medium, low, or no heat.
	Tumble dry Remove promptly	Same as above, but in absence of cool-down cycle, remove at once when tumbling stops.
	Drip dry	Hang wet and allow to dry with hand shaping only.
	Line dry	Hang damp and allow to dry.
	No wring No twist	Hang dry, drip dry, or dry flat only. Handle to prevent wrinkles and distortion.
	Dry flat	Lay garment on flat surface.
	Block to dry	Maintain original size and shape while drying.
IRONING OR PRESSING	Cool iron	Set iron at lowest setting.
	Warm iron	Set iron at medium setting.
	Hot iron	Set iron at hot setting.
	Do not iron	Do not iron or press with heat.
	Steam iron	Iron or press with steam.
	Iron damp	Dampen garment before ironing.
MISC.	Dry-clean only	Garment should be dry-cleaned only, including self-service.
	Professional dry-clean only	Do not use self-service dry-cleaning.
	No dry-clean	Use recommended care instructions. No dry-cleaning materials to be used.

AMERICAN APPAREL MANUFACTURERS ASSOC.

13-8 An explanation of care label terms is the key to understanding them.

Sorting is needed to get good results in laundering. Clothes should be grouped in piles according to the way you will launder them. If possible, include large and small garments in each pile, 13-9.

Make one pile of clothes that are to be washed by hand. Make another pile of delicate fabrics that require warm water and slow agitation. Put the white and light-colored clothing that can stand hot water together. Put dark colors in another pile. Heavily soiled garments belong in a separate group.

If you have a heavily soiled, white garment, it may be wise to wash it by itself. Many light-colored, manufactured fibers (especially nylon) will absorb dirt from the wash water and look gray or dingy. A guide for sorting clothes is given in 13-10.

Soaking may be needed for heavily soiled clothes. Wash the clothes for a few minutes to distribute the detergent. Then turn the machine off and wait 15 to 30 minutes before starting it again.

You may find that the neck or cuffs of a shirt are heavily soiled. Dampen the area and pour a small amount of undiluted detergent on it. When using a dry detergent, make a paste with water and apply this with your fingers. Remember to add less detergent to the wash load since you have already put some on the garment.

There are many presoak products on the market. Your family may have a favorite one. If so, follow the directions given on the package.

Hard and soft water

Some sections of the country have *hard water*, and other areas have *soft water*. Hard water is preferred for drinking, but it is a problem when washing clothes. Hard

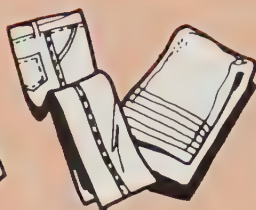


13-9 Sorting clothes is a necessary step before washing them.

water contains minerals, usually calcium and magnesium. A soap scum or film often forms when you use soap in hard water. Do you find a ring around your bathtub when the water is drained? If so, you probably have hard water.

GUIDE FOR SORTING CLOTHES

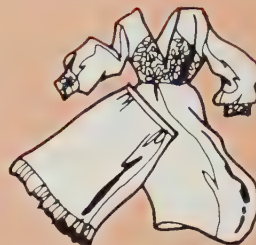
Sort by fabric weight.



STURDY
COTTONS



KNITS



DELICATE ITEMS

Sort by color.

Always wash light colored permanent press and synthetics separately since they easily pick up color.



WHITE



LIGHT COLORS
THAT WON'T RUN



DARK OR BRIGHT
COLORS THAT MAY RUN

Separate heavily soiled items

from lightly soiled ones, even if they should be normally washed together.



VERY DIRTY



NORMALLY DIRTY



LESS DIRTY

Keep lint givers separate
from lint takers.



LINT GIVERS:
BATH TOWELS
BEDSPREADS



LINT TAKERS:
CORDUROY, PERMANENT PRESS, AND
SYNTHETIC FABRICS

WHIRLPOOL CORP.

13-10 Sorting clothes is easy if you keep this guide in mind.

Many families in hard water areas have water-softening systems installed in their homes. By doing this, all the water that comes into their house is softened. Others purchase a water-softening product in the laundry department of stores. This is added to wash loads for whiter, cleaner, and softer clothes.

Soaps and detergents

Soap is made of fats and oils combined with lye. Soap works best in soft water. Stores offer a choice of light-duty and heavy-duty soaps. They are in bar, flake, liquid, and powdered forms. Light-duty soaps are for washing delicate fabrics and lightly soiled garments such as lingerie, stockings, and blouses. They are safe for most dyes and mild to the skin.

Heavy-duty soaps are general purpose products for the family wash and heavily soiled items. Both light and heavy-duty soaps should be among your laundry supplies.

Detergents are made from petroleum and natural fats and oils. They are more complicated to produce than soaps. Because the process of making detergents can be varied, there are many types of detergents on the market. Some are high-sudsing. Others are low-sudsing. But suds are not needed to clean clothes. Follow the directions on the package to find the amount of detergent to use. For best results, measure the detergent as in 13-11, rather than just pouring it into the machine.

Bleach

A *bleach* is a chemical mixture that removes stains and whitens or brightens fabrics. Using bleach to remove stains has already been discussed in this chapter. With

proper laundering, bleach is seldom necessary for the weekly wash. Bleach can shorten the life of a garment by weakening the fibers if it is used too often.

Many teenagers use bleach to get a tie-dyed look in jeans. However, the bleached spots become holes if the bleach stays on the jeans too long. If you are using bleach in your laundry, be sure and add it to the water before adding the clothes. Never pour it directly onto garments. Follow directions on the container to decide how much to use. Check care labels on garments. Many advise "Do Not Bleach."

Blueing is another product used to keep clothes white and bright. It is dark blue in color and counteracts the dingy look in some clothing. Bleaches and detergents often include blue flakes for the same purpose.



13-11 Measure the recommended amount of detergent for your type of washer and your wash load.

Fabric softeners

Fabric softeners are a popular laundry aid. Do not confuse them with water softeners. Fabric softeners cause a thin, invisible, lubricating coating to form over each fiber. As a result, garments will be soft, fluffy and have few wrinkles. Clothes will be easier to iron and nicer to wear.

Sometimes in cold, dry weather, garments made from manufactured fibers have a tendency to cling to the body. Does your shirt, sweater, slip, or skirt make snapping noises when you take it off? This is caused by static electricity. It can be reduced by using a fabric softener in the final rinse water of your wash.

Other antistatic products are available. Some can be sprayed from aerosol cans. Always use the amount suggested by the manufacturer. Others are in the form of a small nonwoven rayon sheet of fabric. This is saturated with a softener and is put in the dryer to tumble with the clothes. A new sheet is used each time.

Starch

With manufactured fibers and durable press finishes, few people *starch* their clothing today. Starch produces a crisp, smooth surface on fabrics. If collars or cuffs appear wrinkled or puckered, a light application of spray starch before ironing could give them a smooth look.

Look at the display in 13-12. Only a few of the many laundry products on the market are shown. Do you know how to use each type of product?

Hand washing

A care label may state that a certain garment should be *hand washed*. This garment could have delicate trims or have colors

that run when washed. A garment such as a sweater may be loosely knitted. This type of garment may look better and last longer if washed by hand.

Any clothing that can be washed in a washing machine can be washed by hand in a large pan, sink, or bathtub. It takes more time and effort, but the results are the same. Many wool garments have care labels that suggest washing by hand. Machine washing may cause them to shrink or become matted. Women often wash their hose by hand.

When you wash clothes by hand, wash only one or two garments at a time, depending on the size of the pan or sink and the size of the garment. Pretreat spots and stains. Use the temperature of water suited to the fabric. Add the detergents in the amount suggested on the package label. Swish the detergent around with your hand until it has dissolved. Force the water through the garment by squeezing it several times with your hands. This dissolves the soil and lifts it out of the garment into the water. Badly soiled areas may need to be rubbed between your fingers to remove the soil.

Rinse several times to get all of the detergent or soap out of the garment. Rinse as many times as necessary until the water is clear and there are no remaining suds. If you are using fabric softener, add it to the last rinse. Rolling the garment in a large towel can remove most of the water. Then either hang the garment on a rust-proof hanger to dry or allow the garment to dry in the flat position.

Types of laundry equipment

Many families own their own washing machines and dryers. These may be auto-



13-12 There are numerous laundry products available to help clean and care for clothes.

matic or manually operated. Automatic models have dials or push buttons that you can set according to your wash load. (A *wash load* is the bundle of clothes you put into a machine at one time.) These settings include:

1. Amount of wash according to small or large wash load.
2. Temperature of water for wash and rinse cycles.
3. Soak time.
4. Agitator speeds.
5. Length of washing time.

Deluxe models also include features for dispensing fabric softener, soak product, bleach, and detergent.

Automatic washing machines often have matching automatic dryers, 13-13. Smaller than average sizes are convenient when



THE MAYTAG COMPANY

13-13 Automatic washers and dryers offer a variety of features. Often, the more features they have, the more they will cost.

space is limited, as shown in 13-14. Less expensive models have fewer features. They are less convenient, but they can make your clothes just as clean as the deluxe models.

Some families use commercial washers and dryers. They take their clothes to self-service laundries. The machines there are coin-operated. Several can be used at one time. This can reduce the time spent doing laundry.

Using the washer

When you load the washer, be careful not to put too many clothes in it. It is better to underload than to overload. Garments need room to move about easily in the water and detergent to get their cleanest. If the garments are heavily soiled, wash only a few at a time.

Bulky clothes take up room even if they are lightweight. If you decide to launder your blanket, wash it by itself.



13-14 Smaller units are available for apartments and homes where space is limited.

for the items you are washing, 13-15. Water temperature affects cleaning, wrinkling, and color and size retention. Hot water (130°F/54°C) does the best job of removing soil and disinfecting. However, hot water can cause colors to run and garments to shrink. Hot water also increases wrinkling. Wash sturdy whites, diapers, colorfast items, and heavily soiled permanent-press items in hot water.

Using warm water (90°-100°F/32°-38°C) will reduce shrinkage, color loss, and wrinkling. Water at this temperature does not sanitize clothes; a disinfectant would need to be added to the wash water. Use warm water for moderately soiled, permanent-press, and non-colorfast items. Some silks, washable wools, and manufactured fibers are washed in warm water.

Cold water (80°F/27°C or cooler) does not clean as well as hot or warm water. Cold water does reduce wrinkling and fading of colors. Wash only non-colorfast and lightly soiled items in cold water.

Using cold water for rinsing will reduce wrinkles. It will also help to conserve energy used in heating water. Even when hot or warm water is used for the wash cycle, use cold water for rinsing to save energy. Choose a lower water level for smaller wash loads. This also saves energy and prevents wasting water.

Choose an agitation speed suitable for the items you are washing. Agitation is the movement provided by the washing machine. Agitation is necessary for soil removal, but too much can damage delicate items. Wrinkling of permanent-press items may also occur at higher speeds. Choose "slow or gentle" speeds for delicate and permanent-press loads. Today, most

Correct Water Temperatures

Water Temperature	Items to Wash
Hot Water	Sturdy whites, diapers, colorfast items and heavily soiled permanent-press items.
Warm Water	Moderately soiled, permanent-press, and non-colorfast items. Silks, washable woolens, and manufactured fibers.
Cold Water	Non-colorfast, lightly soiled items. Dark colored items that are lightly soiled.

13-15 Laundering clothes in correct water temperatures will help clothes retain their colors and their appearance.



NEVER put your hand inside the washer while it is running. Motors are powerful, and parts move at high speed. *You can be hurt!*

13-16 Safety is a must when operating a washer.

washers shut off when the door is opened. Still, never put your hand inside the washer until it has stopped. See 13-16. For a review of steps in laundering, see 13-17.

Using a dryer

Drying clothes seems simple if you have an automatic dryer. You just throw clothes in, set the dial, and come back when you have time. Right? Wrong! There is a little more to doing a good job than that! Remember that you are trying to prove you

STEPS IN LAUNDERING

1. Read care labels.
2. Sort clothes before laundering.
3. Treat spots, stains, and very dirty areas.
4. If machine washing, use the right amount of detergent and bleach.
5. Use the appropriate water temperature.
6. Do not overload the washer with clothes.
7. Dry clothes properly.

13-17 If you follow these steps, you will have good laundry results.

are mature by accepting more household tasks.

First, learn how to use the dryer. Study the information that came with the dryer if it is available. Or you could ask the advice of someone who has used it. Before you put the clothes in the dryer, make sure they can all be safely tumble dried. If you have some doubts, read the care labels of the garments.

Overloading the dryer causes clothing to become wrinkled and twisted. High temperatures could ruin buttons and trims and shrink some clothes. Cotton garments can withstand higher temperatures than those made of manufactured fibers. Fabrics with wrinkle-resistant finishes require low temperatures. Heat will dissolve the chemicals used for these finishes. See 13-18.

An average load of clothes needs about 25 to 30 minutes of drying time. Heavier items such as jeans, sweatshirts, and towels may need more than 30 minutes. Lingerie and other delicate garments require a lower temperature and about 10 to 15 minutes of drying time.

Remove the clothes as soon as the dryer stops, 13-19. This will help prevent wrinkling. Most garments will be ready to wear.

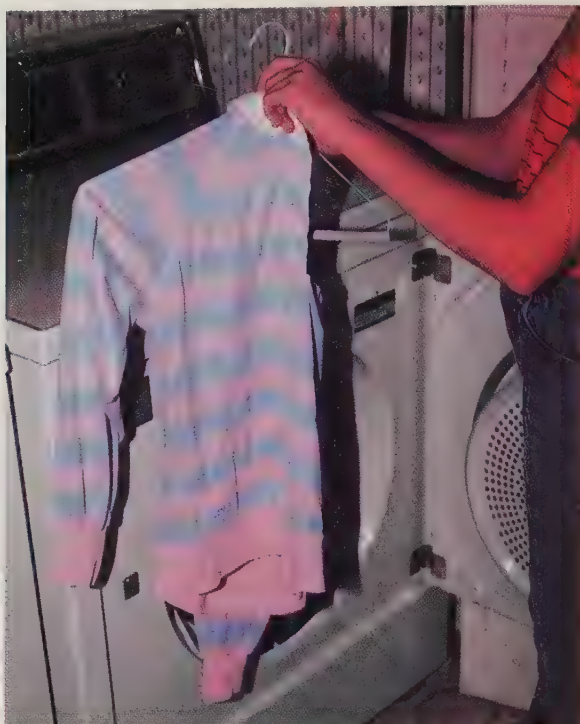
HOW TO CARE FOR PERMANENT-PRESS SHIRTS

1. Wash and rinse shirts in warm or cold water (unless the manufacturer's washing instructions say otherwise).
2. Wash shirts in small loads (overloading of the washer causes wrinkling) and wash them before they become badly soiled.
3. Use a short wash time (about 5 minutes) in order to reduce wrinkling and pilling.
4. Remove shirts from an automatic dryer promptly to avoid wrinkling.

13-18 Follow these steps when caring for permanent-press shirts.



13-19 Remove cotton baby clothes from the dryer before they are completely dry to prevent shrinking. Carefully hand press clothes to shape.



13-20 As soon as clothes are removed from the dryer, they should be hung on hangers or folded neatly.

If clothes lie in the bottom of the dryer until they are cool, you will probably need to iron them.

Hang any garments you can on hangers, 13-20. Smooth the seams, collars, and cuffs. Fold flat items while they are still warm to eliminate even more wrinkles. Be sure the clothes are completely dry before you put them away. Damp clothes can cause mildew and foul odors.

Other ways to dry clothes

Clothes can be dried without using a dryer. Line-drying, flat-drying, and drip-drying are low-cost methods of drying clothes that can save energy. Only time and effort are needed.

Line-drying. You may prefer to dry your clothes outside on a clothesline. In fact, many care labels suggest line-drying. Keep the line clean by wiping it with a damp cloth. As you hang the clothes, shake them, smooth out the wrinkles, and straighten the seams. Use clothespins on places where the imprint will not show, such as the bottoms of shirts or waistbands. You may want to use plastic hangers for as many garments as possible. A clothespin will hold the hanger in place on the line. Take the garments from the line as soon as they are dry. Long exposure to the sun may cause some clothes to fade.

Flat-drying. Garments that are likely to shrink or stretch out of shape may keep their shapes better if they are allowed to dry

in a flat position. See 13-21. Much of the rinse water can be removed by wrapping the garment in a large towel for a few minutes. Roll the garment in the towel and press it with your hands. Unroll and shape the garment on a clean, flat, absorbent surface. Never place a garment on newspaper. The ink from the print will stain the garment. Dry the garment away from direct heat.

Drip-drying. In drip-drying, garments are not squeezed, wrung, or twisted to remove the water. After rinsing, lift the garment from the water and place it on a plastic or rust-proof hanger. Hang the garment over an area that will not be damaged by water. For instance, you may choose to drip-dry garments over the bathtub, in the shower, or outside.

Dry cleaning

The care labels on some clothes state that they must be dry cleaned instead of laundered, 13-22. This usually includes wool and silk garments. Suits, coats, and some dresses are often dry cleaned. Professional dry cleaners also know how to clean special materials such as leather, suede, fur, and imitations of these.

Dry cleaning is a process of cleaning clothes using organic chemical solvents instead of water. This type of cleaning can be done by professional dry cleaners. Or you can clean your own clothes in coin-operated dry cleaning machines.

Professional dry cleaners use large machines that look like washing machines. The clothes are placed in the machine and are tumbled. The chemical solvent flows through the clothes and removes the dirt and soil. After a period of time, the solvent drains from the machine, and the



13-21 This sweater was laid to dry in its original shape on a towel. This method of drying is called flat-drying.

clothes tumble dry.

Professional dry cleaners remove stains and spots before garments are cleaned. Special chemicals and methods are used for different stains. This is why it is very important to point out any stains to the dry cleaner and, if possible, identify the stain. Be sure to point out any stains that are light in color. If overlooked, these stains could turn brown with the heat used in drying during dry cleaning.



SPIEGEL, INC

13-22 Taking your garments to a dry cleaner can be expensive, but it usually gives good results.

More services are offered by professional dry cleaners than just cleaning. Often, plastic trims and buttons must be removed before cleaning because the chemical solvent may melt or misshape them. If the cleaners remove them, they will also replace them after the garment is cleaned. If a water-repellent coat no longer repels water, the cleaners can add a new finish to replace the old one at an additional cost.

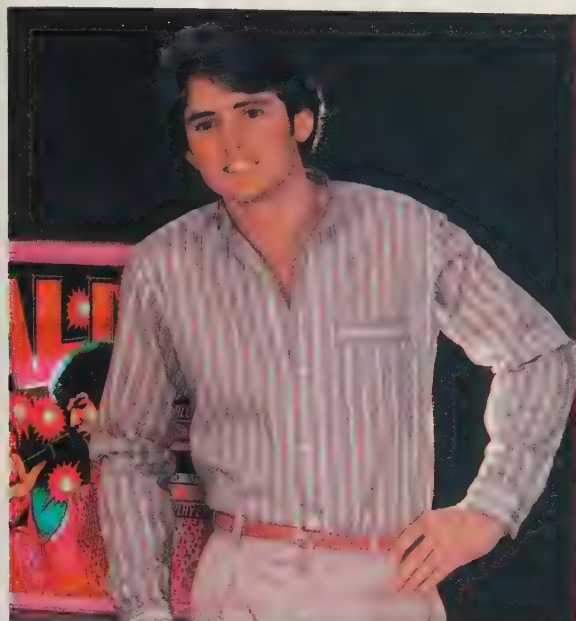
Dry cleaners press most garments after they are cleaned. Pressing is done with special equipment. Garments are placed on forms and steam is blown through the garment from inside the form. Wrinkles are pressed or blown out in this manner. Garments that have pleats and creases, like skirts and pants, are pressed with large pressing machines that use pressure and steam.

Using a coin-operated dry-cleaning machine is a do-it-yourself method. Often, a dry-cleaning machine can be found in a laundromat. The machines are operated much like coin-operated laundry machines. Instructions for operating the machines are posted nearby or on the machine. Often, there is an attendant on duty to help you with your questions.

Lightweight garments should be cleaned together. Light colors should not be mixed with dark colors. Heavyweight garments should be in a separate load.

Remove buttons and trims that the solvent could damage. Leave threads attached to the spot where you cut buttons off so that you will know where to sew them later. Brush loose dirt from cuffs of pants and pockets. Pretreat stains and spots if products are available.

Remove your clothes from the machine as soon as it stops. Smooth out the



LEVI STRAUSS & CO

13-23 If you like to look especially neat all the time, you may want to lightly press your clothes.

garments with your hands. Fold the garments or place them on hangers.

This type of dry cleaning costs much less than professional dry cleaning because you do all of the work yourself. You will also be able to get your clothes back in a shorter time. After dry-cleaned clothes are brought home, they should be left in an open area for several hours before storing them or putting them in a closet. The odor and fumes from the solvent will go away completely, and the clothes will smell fresh and clean.

MORE TIPS ON CLOTHING CARE

Caring for your clothes is a big task. Doing laundry is a major part of that task, but there are some other things you should know, too.

Pressing and ironing

What is the difference between pressing and ironing? The terms are sometimes used for doing the same task.

Pressing is the process of removing wrinkles from clothing using steam and a lifting motion. This could be done after laundering or just before wearing a garment. Pressing is also done when people sew clothes. They press seams open as they sew them.

If you are a person who likes to look especially neat like the guy in 13-23, you want to press most of your clothes. After several washings, even minimum-care garments look better after pressing.

Steam irons, as in 13-24, make the job of pressing easy. If a steam iron is not



BLACK AND DECKER

13-24 The temperature of your iron is critical in pressing. Follow the temperature guide written on your iron. Always remember to check that the iron is off when you are finished. This iron will shut itself off automatically.

available, a damp cloth placed carefully over small sections at a time will work equally well. Do not have the cloth too wet, or spotting may result. Steam and heat are more effective than pressure in removing wrinkles. For this reason, even a lightweight steam wand, as in 13-25, will remove wrinkles.

Most irons have a dial showing temperature settings according to the fabric. See 13-26. Follow this guide since some synthetics melt under a hot iron. If you think the heat of the iron may damage your garment, press a seam first as a test.

Press all of your delicate or low-temperature garments first. This saves time waiting for high temperatures to cool. Pressing on the wrong side of fabrics will prevent shine on the face of the garment.

Ironing is the process of removing wrinkles also. But it takes more time and effort than pressing. Often the entire garment is first dampened and then ironed.

Iron small areas — sleeves, collars, and cuffs — before going to the large sections. There will be less wrinkling of parts already ironed. Iron with the grain of the fabric (usually from top to bottom). The garment will be less likely to stretch. Use a gliding motion. Let heat instead of pressure iron for you. You will not tire as quickly.

When using an iron, insert the plug into the outlet firmly. Unplug it by grasping the plug. Do not yank the cord because this will eventually damage it. See 13-27 for other tips on caring for your iron.

An ironing board is an asset. Most adjust to your height for comfort. Use a padded cover. Padding is usually foam or a felted pad. Covers are coated with a Teflon or other finish to prevent burning and increase wear. Replace both when

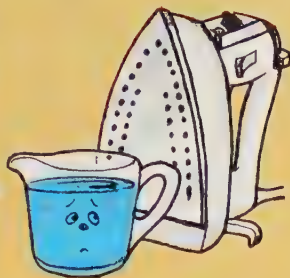


SUNBEAM-OSTER

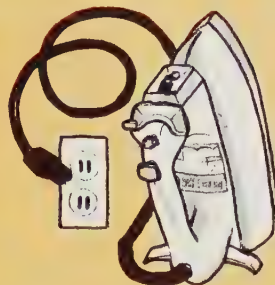
13-25 A hand-held garment steamer is easy to use and great for removing wrinkles.



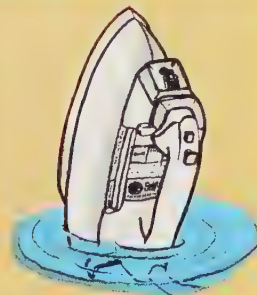
DO use the type of water recommended for a steam or spray iron.



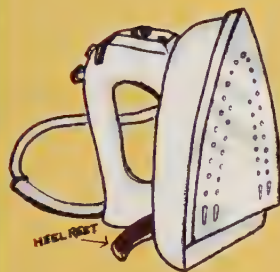
DON'T use dehumidifier or defrost water. It contains harmful minerals and dust.



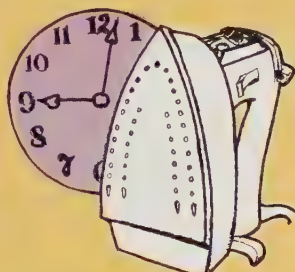
DO unplug cord to add or empty water and when iron is not in use. This is for your safety.



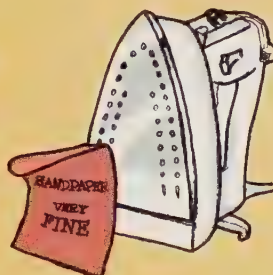
DON'T overfill iron with water. Irons with a water window guide you.



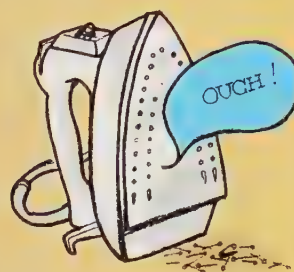
DO store iron on heel rest with steam button pushed in.



DON'T use iron until it preheats for two minutes.



DO use very fine sandpaper to smooth rough edges on an aluminum soleplate. Slight scratches won't affect a nonstick soleplate.



DON'T iron over pins, hooks, zippers, etc. These scratch the soleplate.

BLACK & DECKER

13-27 These rules show you how to care for your iron.

wear starts to show as tears and burned areas can damage your clothes as you iron.

Storage know-how

With our modern climate-controlled buildings and transportation facilities, people wear less seasonal clothing than they did years ago. Today, year-round clothing is popular and more practical. But there are still times when you need special clothes if you have cold winters. These coats,

sweaters, and clothing need to be stored when winter is past.

Select a storage area that is dry and away from direct sunlight. Attics are usually better than basements. Dampness in a basement can cause mildew and musty, unpleasant odors which are difficult to remove.

Plastic bags and cardboard boxes are good containers for storing out-of-season clothes. If you label the boxes, you can find what you need quickly. Tissue paper placed between folds will help prevent wrinkling.

Sweaters and stretchable garments should be stored in drawers or boxes rather than on hangers, 13-27.

Storing winter garments takes more effort than storing summer clothes. Wool is our warmest fiber, so it is used in many winter garments. Wool is expensive, and it

requires special care if it is to look nice for several seasons.

The most important thing to remember about storing any clothing is to store only clean clothes. It is impossible to see all the soiled spots on a garment. There could be a soft drink spill that does not show. It can



13-27 A sweater could stretch out of shape on a hanger. It will keep its shape and look like new if it is stored properly.

turn yellow or brown during storage and be impossible to remove later. If insects find the spot, they will eat it as well as some of the fabric. It would be smart to have your winter clothing dry-cleaned before you store it.

Moths are pests that attack woolen garments. They appear mysteriously in closets and storage areas. They lay eggs on clothing. When the eggs hatch, the larvae eat the wool. Dry cleaning will destroy any moth eggs or larvae. This is another reason for cleaning clothes before storing them. Tightly seal bags and boxes with tape to keep moths from damaging the clean garments.

Repellents for moths are available. There are spray, flake-crystal, and marble forms. All are effective if used according to manufacturer's directions. Many have an odor, so clothes will have to be aired before you can wear them.

Silverfish is another pest that will eat soil spots as well as fabrics. Cleanliness is the best treatment for keeping them away. An all-purpose insect spray may be needed for closets and storage areas.

Caring for accessories

Gloves, scarves, handbags, hats, and caps become soiled, too. If you clean these items before they are heavily soiled, they will look nice for a long time. They will also be easier to clean.

Gloves are made of leather, manufactured fibers, cotton, wool, or a combination of these. Warm water with a mild

detergent can be used to clean them. Put the gloves on your hands. Wash as if you are washing your hands, rubbing the heavily soiled spots. Rinse well. Roll in a towel to remove as much moisture as possible. Unroll and lay flat on a towel to dry. If they seem hard or stiff when they dry, rub between fingers to soften them.

Scarves and sweaters made of wool blends should be hand washed. Use lukewarm water and a mild detergent. Squeeze the suds through them without rubbing or twisting. Gently squeeze water from the garment. Rinse several times so no soap remains. Roll the scarf in a towel. Press out as much water as possible. Lay flat to dry.

Leather handbags require a special leather cleanser. Follow the directions on the package. Plastic items can be wiped clean with mild soap. Fabric tote bags or backpacks can be scrubbed lightly with a soft brush and mild suds. Rinse well. Then blot with a towel and hang to dry.

Most hats and caps can be washed by squeezing suds of mild detergent and warm water through them. Do not twist or wring. Gently squeeze out suds. Rinse well. To dry, smooth and reshape them with your hands. Stuff them with tissue or crumpled brown paper while drying.

Jewelry should be washed often. Body oils and dirt cling to it making it look old and dull. Jewelry-cleaning solutions can be purchased, but most jewelry can be cleaned with warm water and mild soap. Scrub with a soft brush, and pat dry on a towel.

to know

bleach	oxygen bleach
blueing	pressing
detergents	prewash sprays
drip-drying	soaking
dry cleaning	soap
fabric softeners	soft water
flat-drying	solvent
hand washing	sorting
hard water	stain
ironing	starch
line-drying	

to review

1. Why is it important to remove stains as soon as possible after they occur?
2. Remove _____ stains by the wet process and _____ stains by the dry process.
3. Outline the steps in removing a common stain.
4. Why should a heavily soiled white garment be washed separately?
5. How can you tell if the water is hard or soft in your area?
6. List four forms of soap you can buy.
7. (True or False) Any clothing that can be washed in a washing machine, can be washed by hand.
8. Give an important safety rule you should always remember when loading a washer.
9. Why should durable press garments not be dried at high temperatures?
10. What causes mildew?
11. List three ways to dry clothes besides using a dryer.
12. When having your clothes dry-cleaned, why is it important to point out any stains to the dry cleaner?
13. If you do not have a steam iron, how can you get the needed steam to press clothes?

14. When ironing a shirt, you should:
 - a. Iron largest area first.
 - b. Iron with the grain of the fabric.
 - c. Use a lifting motion.
15. Why should you store only clean clothes?
16. Give the steps in washing a cap or hat.

to do

1. Plan a visit to a laundromat. Let your teacher explain how the heavy-duty equipment is to be used.
2. Visit a commercial laundry and dry-cleaning plant. Ask to see the storage area also. Inspect products used. Ask questions about spot and stain removal.
3. If laundry equipment is available in the family and consumer science department, give a demonstration of removing a stain, washing a durable-press shirt, washing a nondurable-press shirt and comparing pressing and ironing techniques.
4. Bring empty bottles and boxes of laundry products for study of information on labels.
5. Visit a local appliance center. Compare features of different washers and dryers. Study prices. Decide which would be a better buy.
6. Compare the cost of owning laundry equipment versus doing your laundry in a commercial establishment. Discuss advantages and disadvantages.
7. Invite the manager of a local dry-cleaning firm to class to explain the function of the National Fair Claim Guide for Textile Products.
8. Practice plugging and unplugging an electric cord correctly.
9. Find examples of garments ruined as a result of improper clothing care methods. If possible, display these items in class with an explanation of how the damage to the clothes could have been prevented.



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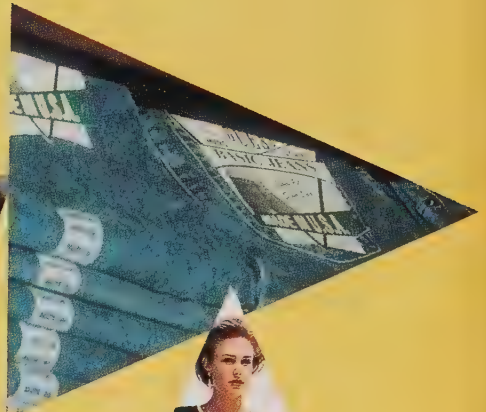
Not everyone is fortunate to have such a nice area to use to take care of their clothes.



MADE IN THE
USA



CRAFTED
WITH PRIDE
IN U.S.A.



Part 3

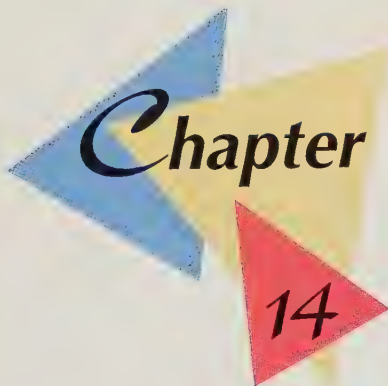
Buy It Right

14 *Your Choices as a Consumer, 220*

15 *Understanding Labels and Hangtags, 237*

16 *Getting Your Money's Worth, 245*





Your Choices as a Consumer

After studying this chapter you will be able to

- describe your rights and responsibilities as a consumer of goods and services.
- identify consumer protection agencies.
- explain how to effectively complain about a product that does not perform as you expected.
- identify and compare the features of different places to shop for clothes.
- explain the effects of advertising on your buying decisions.
- discuss how to comparison shop and how to evaluate sales.

Teenagers are important consumers in today's market. A *consumer* is a person who uses goods and services. You are a consumer of goods every time you buy an article of clothing for yourself. You are a consumer of services when you have a garment dry-cleaned. Since you are a consumer, it is a good idea for you to become familiar with consumer terms. See 14-1.

CONSUMER RIGHTS

As a consumer, you have the right to expect certain things from the goods and services you use. During the 1960s, President John F. Kennedy defined the rights of the consumer as “. . . the right to safety, the right to be informed, the right to choose, and the right to be heard.”

The *right to safety* means that you have the right to be protected from goods and services that can be harmful to your health or life. The *right to be informed* is the right to be given true facts and information about products so you can make wise choices. Advertising, articles in newspapers, and product labels are some

GLOSSARY OF CONSUMER TERMS

ADVERTISEMENT: A paid public announcement of-fering goods, services, and ideas for sale.	NEEDS: Those goods and services considered essen-tial for living.
AS IS: Merchandise is to be sold in its present condi-tion regardless of defects, flaws, or imperfections.	OPEN STOCK: A term indicating that a particular prod-uct or pattern will continue to be available for a long period of time and that it may be purchased individually as well as in sets. The term usually refers to china, glassware, silver, etc.
CATALOG: A listing and description of products and services for sale by retail stores or mail-order houses.	PACKAGED GOODS: Products which are bought and sold in prepared packages.
COMPARISON SHOPPING: Looking at different brands and models of the same or similar products in several stores to compare prices, quality, features, and store services before buying.	PRODUCT TESTING: A process by which consumer products are checked and tested before being sold to the public, usually during the development stage of new products.
CONSUMER: One who uses goods and services; buyer of goods and services.	PROMOTION: The activities designed to increase the sale of certain products or services or to improve business of a specific store or business organization.
CONSUMER PROTECTION: A type of aid related to consumer interests provided by law, by government agencies, or by private individuals or organizations.	PURCHASE: To obtain goods, property, or service in exchange for money or credit.
CREDIT CARD: An identifying card entitling the holder to charge goods and services and in some cases to borrow money.	REFUND: A repayment of money.
CUSTOMER: One who buys or does business with a particular store or firm.	RETAIL: The business of selling for use (to consumer) as opposed to selling for resale, such as sales by wholesalers, producers, or manufacturers.
CUSTOM-MADE: Something made to the individual order of a customer or to fit particular specifications set by the customer.	RETAILER: An individual or organization in the business of selling goods and services at retail or to consumers.
DEALER: One who buys products from a manufacturer or wholesaler for resale to the final user.	RETAIL STORE: A business establishment engaged in selling to consumers or households but not including catalog or mail-order sellers.
DISCOUNT: The amount deducted from an amount due; reduction from usual price of an item or service.	SELL: To transfer goods or perform services for a price.
FALSE ADVERTISING: Any advertising which is misleading in a material respect, including false representation of the contents or benefits of a prod-uct as well as the failure to reveal any consequences which are likely to follow from its use.	SERVICE CHARGE: A fee added to the price of goods or services for some added service connected with the sale such as delivery, credit, or installation.
GUARANTEE: A statement given to the buyer by the seller at the time of sale. It lists certain standards of quality or performance for the product and prom-ises remedial action (repair, replacement, refund, etc.) if the product fails to meet these standards dur-ing a specified period of time.	SHOPPING MALL: A number of retail stores and ser-vice businesses grouped in a single location for shopping and parking convenience.
HIGH PRESSURE: Usually refers to selling techniques that are intense, strong, persuasive, and difficult for customers to withstand.	TRADE ASSOCIATION: An organization of business firms in the same or related fields. They work together to promote their common interests.
IMPULSE BUYING: Generally, unplanned consumer purchases or "spur-of-the-moment" buying of mer-chandise on display or on sale.	TRADEMARK: An identifying name, symbol, or design which sets a product apart from similar products of competitors.
LIFE-STYLE: A way of living which is characteristic of an entire society or segment of a society.	WARRANTY: A statement by manufacturers or sellers of a product or service concerning their responsibil-ity for quality, characteristics, and performance of the product or service. The term is used inter-changeably with guarantee.
LOSS LEADER: Items sold below cost to attract customers to a store with the hope that they will buy other items at regular prices. (Illegal in some states.)	WEAR AND TEAR: The deterioration of property or equipment which results from ordinary use and aging.
MADE-TO-ORDER: Goods made up after a customer places an order.	WHOLESALE: The selling of goods in large lots or bulk to a retailer for resale to consumers.
MAIL ORDER: Order for merchandise which is normal-ly sent and received by mail.	WILL CALL: A way of buying goods in which the buyer leaves a deposit or partial payment for the goods and the merchandise is set aside. When full payment is made, the seller gives the goods to the buyer. Also called LAYAWAY PLAN.
MARKDOWN: A reduction below the original price of an item.	

14-1 Understanding these terms will help you to be a more informed consumer.

sources of information. You should have the *right to make choices* according to your needs and wants. These choices should be from a wide variety of goods and services from more than one producer. The *right to be heard* means you can speak out if you feel products you buy are unsatisfactory. There are agencies that will listen to you and help you get action to settle your complaint.

During the 1970s, President Richard Nixon added another right “. . . the *right to redress*.” Consumers who have had problems with goods and services have the right to have the problems corrected. Suppose you have paid for products or services that turned out to be unsatisfactory. If the store or business will not satisfy you, certain agencies will advise you on whom to contact and what action to take.

Another consumer right was added by President Gerald Ford “. . . the *right to consumer education*.” Several agencies were created to help consumers buy wisely. You should know how to evaluate and compare products before making a purchase. Consumer education programs give advice through articles, reports, and seminars. They can give you buying tips and suggestions about buying wisely. They also warn against fraud and give advice about action that can be taken concerning consumer complaints.

Consumer protection agencies

A number of laws, called *acts*, have been passed to safeguard consumer rights. (Specific federal legislation is discussed in Chapter 15.) Many agencies and organizations have been created to enforce these laws. Among these are:

- Better Business Bureaus.
- The Federal Trade Commission.
- The National Bureau of Standards.
- The Consumer Affairs Council.
- The American Society for Testing Materials.
- The Consumer Product Safety Commission.

These agencies work to improve standards in many fields, including textiles and clothing. They conduct research to find which new products consumers want. They test fabrics and garments for quality and durability. This helps both the producer and the consumer by developing better products.

Many complex machines are used by scientists to perform hundreds of tests on fabrics. Three of these are described below.

The *mace tester*, 14-2, is used for measuring the snag resistance of knit



14-2 This mace tester is used to test the resistance of knit fabrics to snagging.

fabrics. It was developed in England. Its name comes from the mace-like ball with sharp spikes protruding from the surface. A sample of knitted goods is attached to a drum which rotates. This causes the spikes of the mace to beat against the fabric for a specified number of minutes. The number of snags are then counted and compared to a grade chart. This determines the grade or quality of the fabric.

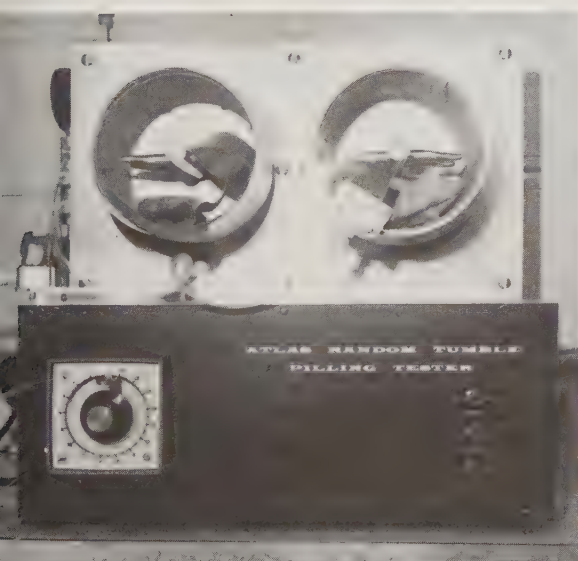
In 14-3, you see a *pilling tester*. *Pills*, in fabric language, are the small balls of fiber on the fabric surface. Pills usually occur on places of wear, as the elbows of sweaters. The fabric sample is placed in the cork-lined cylinder. The machine turns for a specific time. The sample is then examined and graded.

An *elastic tester* is shown in 14-4. The piece to be tested is placed around the two arms. The machine moves the arms back



INTERNATIONAL FABRICARE INSTITUTE

14-4 This machine tests the durability of elastic by stretching and relaxing it a certain number of times. Here a waistband from an underwear garment is being tested.



INTERNATIONAL FABRICARE INSTITUTE

14-3 The drums of the pilling tester are lined with cork. The fabric is rotated a certain number of times. The pills are then counted.

and forth, stretching and relaxing the elastic a certain number of times. This test determines the quality of elastic used in waistbands, cuffs, and stockings.

These are only a few of the hundreds of tests used in the textile and clothing trades.

CONSUMER RESPONSIBILITIES

Consumers have responsibilities as well as rights. The people who make and sell goods and services expect certain things from you as a consumer. See 14-5 for a list that outlines your consumer rights and responsibilities.

When manufacturers or businesses provide information about a product or service, you have the responsibility to seek it out. You also have the responsibility to use

CONSUMER RIGHTS AND RESPONSIBILITIES

- The right to SAFETY . . . and the responsibility to guard against carelessness, especially around fire hazards.
- The right to INFORMATION . . . and the responsibility to seek it out and to use it when buying.
- The right to SELECTION . . . and the responsibility to buy wisely from the wide variety available.
- The right to BE HEARD . . . and the responsibility to let legitimate dissatisfactions be known.
- The right to REDRESS . . . and the responsibility to have problems corrected.
- The right to EDUCATION . . . and the responsibility to seek it out and use it.

14-5 Consumers should be aware of their rights and responsibilities.

this information when buying the product or paying for the service. When you are choosing a product or service, you should consider your needs and wants in order to get the best product or service from the wide variety available.

As a consumer, you also have the responsibility to follow care instructions recommended on the hangtags and care labels. This will help the product to perform as the manufacturer has designed it to perform. For instance, if you buy a jacket containing wool and ignore the care label to have it dry-cleaned and wash it, can you blame anyone else if it shrinks?

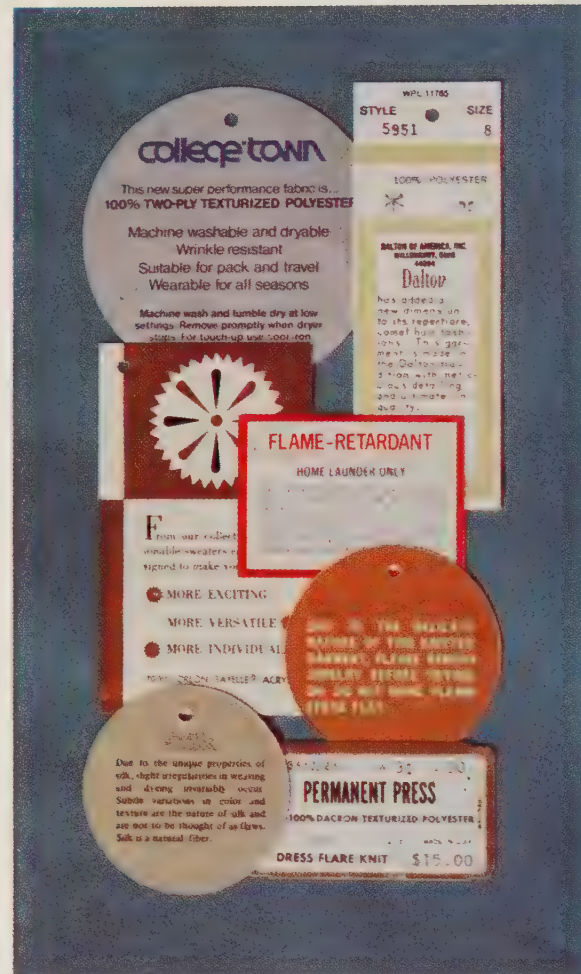
Keeping safety in mind, especially around fire hazards is the consumer's responsibility. For instance, a fuzzy sweater could become enveloped in flames in seconds if touched by a lighted match.

If a product does not perform as advertised and expected, it is the responsibility

of the consumer to let it be known. Otherwise, the manufacturer may not be aware of the problem.

Smart shopping

Smart consumers are smart shoppers. Before they buy, they read labels and hangtags. These provide product care information for the customer, 14-6. This in-



14-6 Manufacturers are eager for you to know about the features of their garments. Note the kinds of information given on these hangtags.

formation helps the shopper make a wise purchase.

When smart consumers shop for clothes, they look for the features they want. See 14-7. They check to see if buttons are sewn on well, buttonholes are made neatly, zip-pers zip easily, and stripes match at the seams. They ask questions before they buy. They buy only the garments that meet their standards. Study the list of shopping tips in 14-8.

Manufacturers are required to sew care labels into garments. Suppose a care label in a shirt says *dry clean only*. If you wash the shirt and it shrinks, you cannot make a claim to anyone about the shrinkage.



14-7 Examine clothes before you buy. Careful shopping will assure you of getting the quality you want.

10 EASY TIPS TO FOLLOW BEFORE YOU BUY

- Is the fiber content right for your needs? (Look at labels.)
- Is the garment washable? Does it have to be? (Look at labels and tags for instructions.)
- Is the garment colorfast? (Look at labels and tags. Ask questions before you buy!)
- Is the garment wrinkle-resistant? (Look at tags for claims. Then, just to make sure, crumple a corner in your hand. Does it bounce back? It should.)
- Will fabric pill? (Look at a small area after you have rubbed it together in a circular motion. Hold it at an angle. Any fuzzing or pilling?)
- Will fabric snag? (Look for long stitches or loose loops in fabric.)
- Is the garment well-constructed? (Look at buttons, buttonholes, stitching, dangling threads, width of seams, hem.)
- Will the garment fit? Will it sag or bag? (Look at fabric after you have wrapped it tight around your fist. It should flatten right out without buckling.)
- Is there a guarantee or warranty? (Look at tags, and read the fine print carefully!)
- Are you buying from a reliable retailer? (Look up a store's policy before purchasing. Why be sorry later?)

MONSANTO TEXTILES CO.

14-8 Smart consumers find the answers to these questions before they buy clothes.

Handling a complaint

The strong interest in consumer protection, coupled with advanced technology, has created new standards for textile products. Your responsibilities as a consumer are to be informed and to care for your purchased goods properly. If a product does not perform as it should, you should inform the right people. When buyers and sellers work together, products can be improved.

You may buy something that you cannot wear because it is of poor quality. The

sweater shown in 14-9 was bought in haste. Later the purchaser discovered a button was missing. Since an extra button was not supplied, all of the buttons would have to be replaced. The blouse shown in 14-10 was found on a sale table. There was soil on the collar that may or may not wash out.

In cases like this, a complaint is in order. You may not like to complain, but you do not want to feel that you have made a “bad buy.” You should return the garment to the proper person. This could be the manager, department head, or clerk in customer service. These people are the decision-makers. They want to know about customer complaints. Then they can correct the problem



14-9 A button is missing from this sweater. What would you do about it?

before it happens again. Most stores will gladly replace your purchase or refund your money. The item is often returned to the manufacturer for credit on the store's account.

What should you do if you are not satisfied with how your problem is handled? Write a letter to the store. Read and study the sample complaint letter in 14-11. Notice the information that should be included in such a letter.

If you are not contacted within the time specified in your letter, write to the manufacturer. You can obtain names and addresses from your library information center or reference books at the library.

If the above suggestions do not work, contact a consumer protection agency for help. Or you may contact a local newspaper if there is a consumer reporter. The Better Business Bureau can also advise you.



14-10 This blouse was on a sale table. Notice the soil on the collar. As a smart shopper, inspect garments before you buy.

SAMPLE COMPLAINT LETTER

YOUR NAME, ADDRESS,
AND PHONE NUMBER.

Terry Johnson
5103 Clark Street
Shawnee, Kansas 00000

Phone: 913/555-4673

DATE.

May 3, 19xx

NAME, TITLE,
ORGANIZATION, AND
ADDRESS OF THE
PERSON TO WHOM
YOU ARE
COMPLAINING.

Ms. Julia Campbell
President
Center Department Store
415 South Park Street
Overland Park, Kansas 00000

PURCHASE INFORMATION
(DATE PURCHASED, STYLE
NUMBER, AND OTHER
DETAILS.

Dear Ms. Campbell:

On April 15, I bought a striped shirt from your store. Photocopies of my sales receipt and the shirt care label are attached. The manufacturer is Main Square Apparel, and the style number is 09432.

STATE THE PROBLEM.

The instructions on the care label said to wash the shirt in warm water and to tumble dry. I did this. But to my disappointment, the colors in the stripes ran together.

ACTION YOU HAVE
ALREADY TAKEN.

I spoke to the store manager, Ms. Richardson, when I tried to return the shirt on April 28. She refused to refund my money. She told me that I should have washed the shirt in cold water and line-dried it instead of washing it in warm water and tumble drying it.

ASK FOR
SATISFACTION.

I make a habit of carefully following the instructions on care labels because they are supposed to recommend the best cleaning method for garments. Since I followed the instructions on this care label, and the shirt was ruined, I would like you to refund my money.

EXPECTED
RESULTS.

I am looking forward to your reply and a refund. I will wait three weeks before seeking third-party assistance. Contact me at the above address or by phone.

Sincerely,

Terry Johnson

Terry Johnson

KEEP COPIES OF
YOUR LETTERS AND
ORIGINALS OF ALL
RELATED DOCUMENTS
AND INFORMATION.

14-11 Sometimes, it may be necessary to write a complaint letter.

Consumers, retailers, and manufacturers must work together for the benefit of each other. Manufacturers want their products to perform well so retailers will want to continue to sell them. Retailers want to offer quality products and services so they will have satisfied, happy customers. Consumers want to feel they have made good buying decisions.

PLACES TO SHOP

Why do you like one store better than another? Is it because it carries a wider selection of clothes? Are the salespeople there more helpful? See 14-12. Do they treat you as an important person rather than someone who is too young to know anything? Or do you shop in a store only because your family has a charge account there?

There are many types of stores that carry clothing. You will have to compare the features as well as prices to find which type suits you best.

Department stores offer one-stop shopping. They sell a variety of clothing, shoes, and accessories in a wide range of styles, qualities, and prices. A department store offers clothing for infants, children, teens, and juniors as well as styles for older persons. Many services may be offered such as credit accounts, alterations, gift wrapping and mailing, delivery, and customer service departments. The cost of these services is added to the price of the merchandise. Customers must decide if it is worth the cost to them to shop at this type store.

Discount stores have lower prices than department stores. The quality of clothing can range from high to low. Items may



FEDERATED DEPARTMENT STORES, INC.

14-12 Courteous and helpful salespeople can attract customers to a store.

have something slightly wrong with them, but are still wearable. This could be a pulled thread or a place where the color is not the same. Discount stores also sell clothes from manufacturers who produced more than their dealers ordered. These clothes could be first quality, but because they are “extras,” they are sold at lower prices. Discount stores carry a wide range of clothing and household items. These stores are the department stores’ greatest competition.

Specialty shops are favored by many people. They sell specific kinds of merchandise. For instance, they may sell only junior-size dresses or boys’ and men’s pants or infants’ wear. Shopping centers and malls are good places to find specialty shops, 14-13. Often the owner or manager is a local person. If you need a certain item

that is not available, he or she may be able to get it for you. The service is good, and the salespeople know their merchandise. For people with limited time to shop, specialty shops are ideal. But prices are sometimes higher than in other stores.

Factory outlet stores are stores operated by manufacturers. See 14-14. The prices are often less than those at department stores because the clothing comes directly from the factory; there is no wholesaler or “middle person” involved. Some factory outlets offer first-quality items while others offer irregulars or both. An *irregular* means that there is a defect in the garment. This term is often included on the garment label or price tag. Look carefully for the defect and decide if it will affect the wearing quality of the garment. A poorly sewn seam or a hidden flaw in a garment could be a good buy. You could repair the seam. The flaw could be in a spot that would not show as



14-14 Some name brand manufacturers run factory outlet stores. You can find some very good buys at these stores.

the garment is worn. Garments from past seasons are often found in factory outlets. Basic clothing such as shirts and blouses can be good buys.

Thrift shops carry left-overs from other stores and some out-of-style garments. Some clothing may have been owned by others. You will have to spend more time shopping in order to look carefully at each item you may consider buying. Search for flaws and signs of quality to be sure you are spending your money wisely.

Resale shops are just what their name implies. The clothing has been owned and worn before. It is being sold again. Clothing that has been outgrown or that which someone doesn't want to wear any longer is brought to these stores. You may be able to find some bargains, but careful selection is necessary.

Variety stores sell many different products including a limited amount of clothing.



14-13 Malls offer climate-controlled shopping. A variety of speciality shops are often located in malls.

Fabrics may be included along with other household items. Clothing items may be prepackaged which keeps you from examining them closely or trying them on for correct fit. Some of these items may be hose, socks, belts, scarves, and underwear. The price range is usually from medium to low and the quality of the clothing varies. Variety stores can be a convenient place to buy items you need quickly.

Your choice of stores depends on you. Which has the garments you like best? In which stores do you feel comfortable and enjoy shopping? You may decide to shop in different stores for different items.

Mail-order shopping

Mail-order shopping lets you shop at home. This type of shopping has become a way of life for many consumers. There are several reasons for the increased growth of catalogs. These include the widespread use of credit cards and the number of people in the workforce who now have less time for shopping at retail stores. With mail-order shopping, you can take your time choosing the items you want when you have the time to shop.

Catalogs often offer a better assortment of clothing items than local stores, 14-15. Many catalog businesses have upscaled their merchandise to include designer fashions. Prices vary, but they usually compete with department stores.

There are advantages and disadvantages to mail-order shopping. Some advantages are:

- Shopping by mail is convenient. There are no parking problems or time limits for store openings and closings.
- Catalog services are usually quite good. Returns can usually be made with no

questions asked. (Check the company policy in the catalog to see if you can return items for a refund or credit.)

- Each item of clothing is shown and described. The fabrics, sizes, colors, prices, and details are listed. This catalog information is often more complete than what a sales clerk could give you.
- Orders are easily placed by phone, practically any time, day or night, through toll-free numbers and credit cards.

Some disadvantages are:

- Often there is a delivery charge added to the price of your purchase.
- Perfect fit may be a problem, as you are not able to try the garment on before you buy it.
- You may find a slight difference in color when the garment arrives. Photos are taken of each item, but the exact color is difficult to reproduce on paper.
- If you have to return an item, you will have to repackage it and return it for an exchange, a refund, or credit. Often, you must pay the shipping cost of returning the item.
- You may be required to obtain and send a money order for your purchases.
- You will have to wait for your order to be delivered, which is inconvenient if you need something right away.

Some stores have catalog departments in their retail stores. You can find what you want in a catalog, and place your order there. You may return to pick up the order later or pay to have it mailed to you.

Never send cash along with your order. It could be lost or stolen, and it would be difficult to prove you sent it. Pay by credit card, COD, check, or money order. Stores may have different policies concerning payments.

Comparison shopping

A smart shopper compares qualities and prices in different stores before buying. This is *comparison shopping*. The young woman in 14-16 is comparing vests. She wants a vest with the right details at the right price.

Study newspaper advertisements for items you need and keep prices in mind. Mail-order catalogs are a good reference in comparison shopping. Then when you visit stores, you will be ready to compare garments. Read the labels to be sure you are comparing identical quality, price, and design.

Compare nationally advertised brands with lesser-known brands. Lesser-known brands often cost less. If the quality is equal, the lesser-known brand is a better buy. When you are not sure about the quality of a product, you may be smart to buy the nationally advertised one. A well-known brand name usually assures you of good quality. See 14-17.



14-16 After comparison shopping, this young woman has found the vest she wants. It is the right style, size, color, and price.



14-15 Mail-order catalogs offer the convenience of shopping at home. The catalogs contain thousands of items from which to choose.



14-17 When shopping for any type of merchandise, compare well-known brands with lesser-known brands.

Comparison shopping takes time. You must have patience and a real desire to get the best value for your money. The results make it worthwhile. You will have a feeling of satisfaction when you know you have made the right purchase. Going with a friend makes comparison shopping more fun. See 14-18.

ADVERTISEMENTS

Advertising has the power to “create” wants by making products seem desirable. Clever slogans, songs, and phrases are composed to catch your attention. Photos and drawings are shown to heighten your interest.

Many clothing ads are aimed at young people. Teens can be fashion leaders. They begin new clothing trends, and adults often follow. An example is the widespread use of denim today. Teens started this trend by wearing denim jeans. Then they bought denim purses, backpacks, jackets, skirts, and hats. Before long, denim was worn by everyone. See 14-19.

The advertising industry gives major financial support to newspapers, magazines, radio, and television. These methods of communication help the advertiser reach you, the consumer. Competition between companies is stiff. They want you to spend your money for their product. And they want you to be satisfied so you will buy their product again. See 14-20.

Ads can be a big help to you. They tell you the advantages of a product. They show you how to use products correctly. They introduce new products to you. They show you the latest fashions. And they announce sales. Some of the sales they an-



14-18 Comparison shopping is more fun when you are with a friend.

nounce are a help and can save you money. Unfortunately, not all sales are bargains.

Sales — bargains or gimmicks?

When stores plan sales, they try to convince you that you need their merchandise. Their ads tell you the sale is an opportunity to find great bargains. But a sale is a *bargain* only when you can save money on items you need. By being able to evaluate sales, you will be a better shopper and will save money.

Most stores have many sales during a year. Sometimes all stores will have sales at the same time, such as before and after holidays. Other sale days are chosen by individual stores. Sales are labeled “Store-



LEVI STRAUSS & COMPANY

14-19 Many denim clothing ads are aimed at young people. Still, denim clothes are worn by people of all ages.

Wide Sale,” “Bargain Days,” “Anniversary Sale,” “Manager’s Sale,” and other catchy titles. Some stores have a sale each week! Free gifts and chances for prizes are sometimes offered to entice customers into stores during sales. All of this leads you to wonder if you can really save money at these sales.

Plan your purchases before you go to a sale. It is hard to think clearly about what you need when you are surrounded by people. The confusion may cause you to change your mind about trying to save money.

Look at the hangtags to see if the price has really been lowered. See 14-21. A 50 percent markdown is a real bargain if the garment is still in good condition. But 10 percent off is not a great savings. It would be a bargain only if it is exactly what you want.

Clearance, inventory and end-of-season sales can be real money-savers as in 14-22.

PENDELTON WOOLEN MILLS



14-20 This woman is happy with her new suit and purse purchase. If customers are happy, they will return to the store to again buy a brand they like.



14-21 Check sale markdowns to see if you are really getting a good deal. Remember, a sale is a bargain only if it is something that you really need and want.



14-22 A clearance sale can offer some excellent buys. You must be willing to sort through disorganized merchandise. Salespersons find it impossible to keep tables arranged neatly.

Clearance sales are planned when a store wants to sell items to make room for new merchandise. *Inventory sales* can be held before stock is counted or after it is counted. In either case, an inventory sale is held to reduce a store's inventory. *End-of-season sales* are held to make room for new merchandise for a new season. Salespersons find it difficult to keep merchandise straight on tables. People are careless about "digging" to find what they want. If you are willing to search through the piles, you can find bargains.

A *special-purchase sale* offers products that have been bought especially for the sale. By buying large amounts, the store can offer items to you for less than regular price. This type of sale usually offers fewer bargains than other sales.

Irregulars or seconds are sometimes good buys. Take your time and inspect any item before you buy it. If imperfections exist that you will not accept, it is best to find them before you leave the store. Many sale items cannot be returned.

Sales can help both stores and consumers. Stores need to sell the products. They have to make room for the newer ones. Consumers like to get the products they need at reduced prices.

Be a smart consumer. Study the sale ads of stores near you to find those that offer real sale bargains.



Today's lifestyle allows people more leisure time. It is important to have comfortable clothing that wears well and always looks good.

to know

bargain	irregulars
clearance sale	mace tester
comparison shopping	mail-order shopping
consumer	pilling tester
department stores	resale shops
discount stores	special-purchase sale
elastic tester	specialty shops
end-of-season sale	thrift shops
factory outlet stores	variety stores
inventory sale	

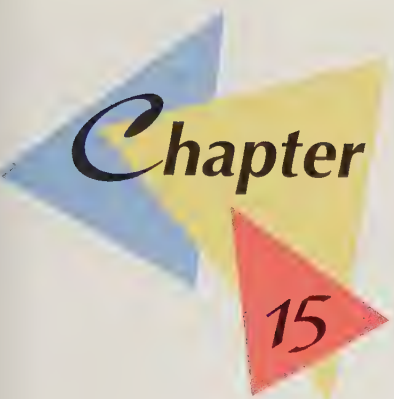
to review

1. Consumers have both rights and responsibilities. List their six rights.
2. Which agency is designed to protect consumers?
 - a. The Federal Trade Commission.
 - b. The Consumer Product Safety Commission.
 - c. The American Society for Testing Materials.
 - d. All of the above.
3. If an item does not perform as expected, explain what should be done.
4. What type of store is your favorite? Why?
5. Name three advantages and three disadvantages of mail-order shopping.
6. When comparison shopping, compare:
 - a. Quality.
 - b. Price.
 - c. Design.
 - d. All of the above.
7. Why is buying a well-known brand often an advantage?
8. When is a sale item not a bargain?

9. Advertising:
 - a. Is not important to consumers.
 - b. Is a financial support for communication media.
 - c. Is usually aimed at middle-aged people.
 - d. Is a dirty business that tries to deceive consumers.
10. How do sales help both stores and consumers?

to do

1. Bring clothing advertisements from different sources to class. List the kinds of information given and terms designed to create wants. Make an attractive bulletin board display.
2. Select stores for comparison shopping. Work in pairs or teams. Set up guidelines and questions. Compare findings when the project is completed.
3. Debate the advantages of one type of store versus another.
4. Invite a staff member of the Better Business Bureau to talk to your class about the functions of the organization.
5. Ask a department store manager to visit your class. Prepare questions to ask about policy related to returned merchandise, sales, shoplifting, etc.
6. Compile a list of advertising slogans that you think influence people to buy.
7. Write a letter to an imaginary store manager about a disappointing purchase. Compare letters for clarity and detail.
8. Ask someone from a newspaper office or radio station to discuss the code of ethics used in advertising copy.
9. Collect advertisements that offer free gifts, discounts, and prizes for buying a product. Arrange on bulletin board.
10. Write a TV commercial to sell a garment or accessory of your choice. Present the commercial to the class.



Chapter

15

Understanding Labels and Hangtags

After studying this chapter you will be able to

- explain the purpose of labels and hangtags on clothing.
- describe Federal Legislation that deals with textile products.
- list generic groupings and trademarks.
- identify different care labels in relation to the Care Labeling Rule.
- define care labeling terms.

Do you read the labels and hangtags attached to the textile items you buy? Time, effort, and money were used to develop them. Laws were passed to enforce them. They tell you what to expect from the product and how to care for it properly. Understanding labels and hangtags will help you make wiser clothing decisions.

During your teen years, you will accept more and more responsibilities. You will choose and buy more of your own clothes, 15-1. Getting your money's worth in appearance, fit, and easy care are the signs of a smart consumer. To reach this goal, you need to understand labels and hangtags.

Fabrics and garments are labeled for four basic reasons:

- To identify the product.
- To help businesses sell products.
- To help consumers make wise purchases.
- To explain proper care methods for the product.

LABELS AND HANGTAGS

Labels are small pieces of paper, fabric, or plastic often firmly attached to a product



15-1 Many teens are responsible for selecting their own clothes. Labels and hangtags help them make wise purchases.

which provide printed information. Labels usually remain attached to a garment as it is used. By law, labels must state the fiber content and care instructions. They may also list the fabric construction, special finishes, performance standards, size, brand name, and guarantees.

Hangtags are not required by law. They are the larger tags attached to purchased

clothes. They are removed before the garments are worn. Some information on labels is often repeated on hangtags. The trademark, size, style number, price, and special features may also be listed on hangtags. Study the labels and hangtags shown in 15-2.

Finding and using labels and hangtags

Labels are attached so they will not be seen while you wear the garment. They are usually found at the back of the neckline of shirts, blouses, dresses, and sweaters. Look for them at the back center of the waistband on skirts and slacks. Men's suits and sport jackets often have labels on the inside pocket at chest level. Some jackets and coats have the label on the front facing below the waistline. You may have to search, but the labels can be found.

Suppose you buy a blouse that is packaged so you cannot see the label. Look on the package. The information that is on the label will also be on the package.

Labels and hangtags are meant to help you, 15-3. Make use of them. Smart shoppers save hangtags. They write the date and place of purchase and a short description of the garment on them. They arrange the hangtags in a small box which is kept in the laundry area for easy reference.

FEDERAL LEGISLATION

Consumers have not always had the help of hangtags and labels. They were not really needed until manufactured fabrics appeared on the market. Then the confusion began. People did not know how to care for the new fabrics. They could not tell what fiber was used in a fabric just by looking at it. Consumers and fabric and



15-2 Note the many kinds of information listed on labels and hangtags.



15-3 It is easy to recognize a brand of clothes you like by the label. Do you recognize any of these clothing labels?

clothing manufacturers were confused.

The government stepped in to settle the confusion. Three of the regulations that deal with clothing are:

1. Textile Fiber Products Identification Act, amended in 1969.
2. Care Labeling Rule, 1972, revised in 1984.
3. Flammable Fabrics Act, 1953, amended in 1967.

The *Textile Fiber Products Identification Act* (TFPIA) assigned the task of organizing the manufactured fiber industry to the Federal Trade Commission. They began by dividing the manufactured fibers into 21

generic groups. (Generic means characteristics of a whole group.) Fibers that are chemically alike make up a generic group. The 21 generic groups of fibers are listed in 15-4.

Each generic group can include many different fibers. Although the fibers are chemically alike, there are slight differences. Manufacturers want their fiber to have special characteristics. Each fiber has a *trademark* to set it apart from others. For instance, olefin is a generic name. The olefin fibers used to make indoor-outdoor carpet are different than the olefin fibers used in upholstery fabrics. Manufacturers

Acetate	Metallic	Rayon
Acrylic	Modacrylic	Rubber
Anidex*	Novoloid	Saran
Aramid	Nylon	Spandex
Azlon*	Nytril*	Triacetate*
Glass	Olefin	Vinal*
Lastrile*	Polyester	Vinyon

*Not currently produced in the United States.

give a trademark to each kind of fiber. Herculon and Marvess are two of the olefin trademarks. Study 15-5 for other examples.

The TFPIA requires that all clothing and household textile products be labeled to show:

1. The generic name of every fiber in the item unless a fiber weighs less than 5 percent of the total fiber weight.
2. The percentage of each fiber, by weight.

15-4 The Federal Trade Commission has assigned 21 generic names to the various types of manufactured fibers according to the chemicals used to make the fibers.

GENERIC NAME	TRADEMARK	MANUFACTURER
ACETATE	Estron Celanese Chromspun Loftura	Eastman Kodak Co., Tennessee Eastman Co. Div. Celanese Fibers Marketing Co., Celanese Corp. Eastman Kodak Co., Tennessee Eastman Co. Div. Eastman Kodak Co., Tennessee Eastman Co. Div.
ACRYLIC	Acrilan Creslan Orlon Zefran	Monsanto Textiles Co. American Cyanamid Co. E.I. du Pont de Nemours & Co., Inc. Dow Badische Co.
METALLIC	Lurex	Dow Badische Co.
MODACRYLIC	Acrilan SEF Verel	Monsanto Textiles Co. Monsanto Textiles Co. Eastman Kodak Co., Tennessee Eastman Co. Div.
NYLON	Antron Cantrecre Crepeset Enkalure Zeftron	E.I. du Pont de Nemours & Co., Inc. E.I. du Pont de Nemours & Co., Inc. American Enka Co. American Enka Co. E.I. du Pont de Nemours & Co., Inc.
OLEFIN	Herculon Marvess	Hercules, Inc., Fibers Div. Phillips Fibers Corp.
POLYESTER	Dacron Encron Fortrel Kodel Trevira	E.I. du Pont de Nemours & Co., Inc. American Enka Co. Fibers Industries, Inc., marketed by Celanese Fibers Marketing Co., Celanese Corp. Eastman Kodak Co., Tennessee Eastman Co. Div. Hoechst Fibers Inc.
RAYON	Avril Coloray Enkrome Fibro Zantrel	Avtex Fibers Inc. Courtaulds North America Inc. American Enka Co. Courtaulds North America Inc. American Enka Co.
SPANDEX	Lycra Monvelle	E.I. du Pont de Nemours & Co., Inc. Monsanto Textiles Co.

15-5 Within each generic group there are several tradenames. Each one represents a fiber with slight variations.

3. The name or other identification of the manufacturer.
4. The country of origin, if the textile product is imported. All textile products made in the United States must have a label stating this.

The *Care Labeling Rule* was issued by the Federal Trade Commission. This rule requires that all clothing labels (except hosiery) give clear, uniform, and detailed instructions for care and maintenance.

Exemptions may be granted for:

1. Articles whose utility or appearance may be impaired by a permanent label.
2. Articles which are completely washable under normal circumstances.
3. Articles which are intended to sell at retail for \$3.00 or less.

This rule applies to fabrics as well as to ready-made garments. The ends of fabric bolts are coded to give you care instructions. See 15-6. The salesperson will give you a free label with each piece of fabric you buy if you request it. Attach the labels to your finished garments.

The 1984 revised rule requires labels to include the following information:

1. Method of washing (by hand or machine).
2. Water temperature (cold, warm, or hot).
3. Method of drying (machine, hang, or lay flat).
4. Drying temperature (low, medium, or high).
5. Type of bleach when all types cannot be used safely.
6. Use of iron and ironing temperature when necessary (cool, warm, or do not iron).

All dry-cleaning instructions must

MACHINE WASH WARM	1	Machine washable fabrics
MACHINE WASH WARM LINE DRY	2	Machine washable fabrics
MACHINE WASH WARM TUMBLE DRY REMOVE PROMPTLY	3	Machine washable permanent press fabrics
MACHINE WASH WARM DELICATE CYCLE TUMBLE DRY LOW USE COOL IRON	4	Machine washable delicate fabrics
MACHINE WASH WARM DO NOT DRY CLEAN	5	Machine washable fabrics
HAND WASH SEPARATELY USE COOL IRON	6	All hand washable fabrics
DRY CLEAN ONLY	7	Dry-cleanable fabrics
DRY CLEAN PILE FABRIC METHOD ONLY	8	Pile fabrics
WIPE WITH DAMP CLOTH ONLY	9	Vinyl fabrics

DEVELOPED BY THE NATIONAL RETAIL MERCHANTS ASSOC.

15-6 Care labels are available to you free whenever you buy fabric if you ask for them. These same codes appear on the ends of fabric bolts.

specify the best type of solvent for cleaning when some solvents might damage the article being cleaned.

Manufacturers can use a distinct care label for their products. Labels can be any color, style, or shape as long as they follow the standards set by law. They can be fused, glued, or sewn to the garment. They must be made so they do not ravel.

Care instructions are printed on a label or woven into it. They may be printed directly on the fabric if they will remain readable for the life of the garment. Many manufacturers print the care instructions on the back of their own brand labels. This is legal if the label states "Care Instructions on Reverse Side."

Some retailers have their own care-labeling program. One consists of a simple letter code that identifies five basic cleaning methods, 15-7.

The care label should warn you of what method(s) cannot be used. If a care label gives washing instructions but does not warn against dry-cleaning, you should be able to dry-clean the garment.

The Flammable Fabrics Act was passed in 1953 to regulate the manufacture and sale of all highly flammable wearing apparel fabrics. It was directed at prohibiting the sale of very hazardous, or "torch-type" fabrics.

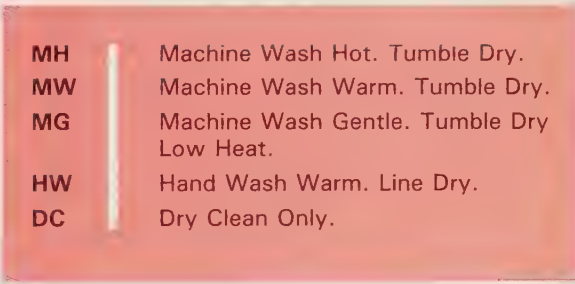
The Act has been expanded many times. Specific standards have been added for carpets, rugs, mattresses, children's sleepwear (sizes 0-14) and some upholstery fabrics.

Treating fabrics to reduce flammability does not prevent them from burning. Almost every fabric will burn when exposed to a flame. Treating fabrics reduces the danger of burning. Consumers still need to take precautions and reduce fire hazards.

Consumers must be warned if the flame-resistant properties of a garment will be destroyed by laundering methods. For instance, children's sleepwear must be washed using a detergent instead of soap. This is because soap can destroy the flame-resistant properties of the fabric.

In the future, there may be more flammability standards. New standards for blankets and for upholstered furniture have been discussed. Many manufacturers are working on new fibers and finishes to make more fabrics flame-resistant.

The Flammable Fabrics Act is enforced by the Consumer Product Safety Commission.



MH	Machine Wash Hot. Tumble Dry.
MW	Machine Wash Warm. Tumble Dry.
MG	Machine Wash Gentle. Tumble Dry Low Heat.
HW	Hand Wash Warm. Line Dry.
DC	Dry Clean Only.

J.C. PENNEY

15-7 The J.C. Penney Company uses a simple letter code for care instructions for their products.

to know

Care Labeling Rule	hangtags
Flammable Fabrics Act	labels
generic groups	Textile Fiber Products Identification Act
trademark	

to review

1. What is the difference between a hangtag and a label?
2. Why are labels and hangtags needed today?
3. Where are labels often found on garments?
4. Why should hangtags be saved?
5. All manufactured fibers are divided into 21 _____.
6. The TFPIA does NOT require that labels include:
 - a. Care instructions.
 - b. The generic name of every fiber that makes up at least 5 percent of the total weight.
 - c. Name or identification of manufacturer of the product.
 - d. Country of origin, if product is imported to the United States.
7. What information is required on all care labels?
8. List two items that may be exempted from the Care Labeling Rule.
9. Where is care information found for yard goods?

10. List the six items of information required on care labels as a result of the 1984 revision.

11. Why is it an advantage to have standardized terms on care labels?

12. Name three specific products covered by the Flammable Fabrics Act.

to do

1. Collect hangtags and labels for a bulletin board display. Discuss the complete and incomplete information given.

2. Divide into groups. Write a care label that could be applicable to a certain fabric or garment. Compare with other groups.

3. Visit a fabric department or store. Ask the salesperson to let you examine ends of fabric bolts. Record the information and share it with other class members. Inquire about the care of notions.

4. Find the cost of dry-cleaning different garments. Compare to laundering cost.

5. Discuss an experience you have had of a fabric or garment failing to wear as you expected.

6. Select clothing items by using a mail-order catalog. Discuss the desirability of each purchase in terms of the information given about it.

7. Invite a local fire fighter to speak to the class about fire hazards related to clothing.

8. Invite a buyer of teen clothes to speak to the class in regard to judging quality at the buyer's market.



Chapter

16

Getting Your Money's Worth

After studying this chapter you will be able to

- recognize standards of quality construction in garments.
- judge the appearance and fit of a garment.
- evaluate the effectiveness of various alterations.
- make wise selections concerning clothing and accessories.
- describe various ways you can pay for your purchases.

Have you ever been faced with the problem of choosing between two items you like? The decision is easier when you know which points to compare.

To get your money's worth in clothing, you need to understand the term *quality*. The words poor, good, better, and best are used to describe quality. The quality of an item depends on the performance of its characteristics. A garment of poor quality will not perform as well as one of good quality.

Price is sometimes an indication of quality, but not always. An alert shopper can often find good quality products at low prices.

You need different levels of quality for different garments. You would be smart to buy a good quality coat or jacket if you plan to wear it for several seasons. If you want a shirt that is the latest fad, one of less quality with a lower price could be your best buy. You must decide which quality will meet your needs.

Shop in several stores before you make a purchase. You can often find a good buy if you comparison shop.

POINTS TO CHECK

Quality is only one of the factors you should consider when buying clothes. These are some other questions you may ask yourself. Does it fit? Does it look right? Does it do something for me? Is it appropriate for my activities? Will I wear it often enough to get my money's worth?

The following guides or standards may help you answer some of your questions. *Standards* are measures used for comparing products in quality, performance, and price.

Standards for buying shirts and blouses

Study 16-1 and 16-2. When choosing a shirt or blouse, look for:

1. Ample room across the chest or bust, back, and shoulders.
2. Shoulder seams that come to the end of the shoulder bone.
3. Tops that are long enough to stay tucked in jeans, skirts, or slacks.
4. Armholes that are large enough for arms to move freely.
5. Collars with even, sharp points.
6. Smooth topstitching.
7. Buttons sewn on securely and placed directly under buttonholes.
8. Well-made buttonholes.
9. Neat, even cuffs that fit comfortably around wrists.
10. Pockets that are securely sewn on flat without wrinkles.

Standards for buying sport jackets and suits

Refer to 16-3. Before you buy a sport jacket or suit, be sure:

1. It fits across the back shoulders smoothly, with no wrinkles or bunching.



MEN'S FASHION ASSOCIATION AND SIMPLICITY PATTERN CO., INC.

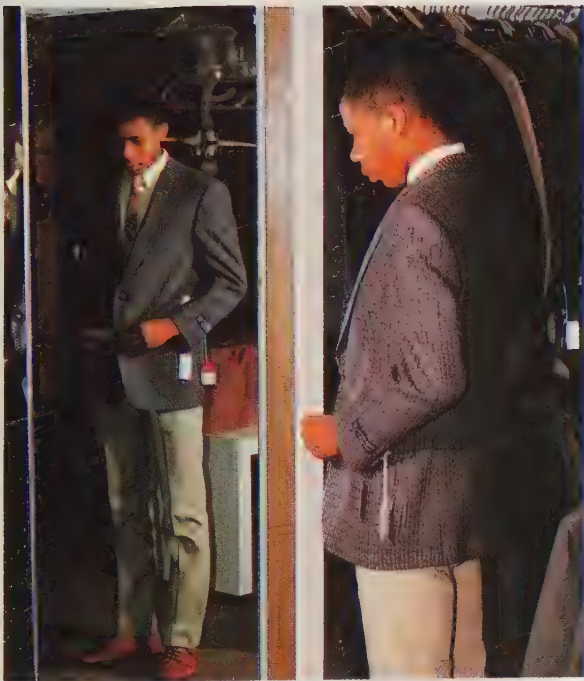
16-1 and 16-2 These tops illustrate some of the points you should check when you go shopping.

2. The armholes are large enough for an undershirt, shirt, and sweater to be worn underneath.
3. The outside stitching is smooth.
4. The jacket fits smoothly across the chest area when buttoned.
5. The pocket corners are reinforced.
6. You see about one-half inch of shirt cuffs below jacket sleeves.
7. The collar fits closely around the neck without gaps.
8. Any pattern in the fabric matches at center, side seams, and pockets.
9. The buttons are sewn on securely with a shank beneath so they button easily and smoothly.
10. Linings and interfacings are used as needed to give strength, support, and better shape to the garment.

Standards for buying jeans and slacks

See 16-4. When shopping for jeans or slacks, check to see that:

1. You can walk and sit comfortably in them.
2. The seat area fits smoothly without bagging or binding.
3. The crotch length is just right — not too long or too short.
4. The waistband has a double thickness of fabric.
5. There is reinforced stitching at bottom of zipper and corner of pockets.
6. The zipper has a locking pull tab so it will not unzip by itself.
7. Seams are straight and not puckered.
8. You can follow the instructions given on the care label.
9. They fall straight without wrinkling.



16-3 How many of the “points to check” can you find illustrated in this sport coat?



THE FASHION ASSOCIATION

16-4 Trying clothes on may take time, but getting a good fit is worth it.

Standards for buying dresses and skirts

Look at 16-5. Before choosing a skirt or dress, see if:

1. It is cut with enough fabric so it does not look skimpy.
2. The garment feels good on your body.
3. It hangs straight from the waistband without cupping under the hips.
4. The waistline fits snugly at your natural waistline.
5. The waistline does not roll up. (It rolls if it is too tight in the hip area.)
6. The bustline darts (if present) point toward the highest point of the bust.
7. Zippers work smoothly and have a lock tab.
8. The seams are wide enough to alter, if needed.

ALTERATIONS

Suppose you want to buy a garment, but it doesn't quite fit. Perhaps you can alter it. *Alterations* are changes made in the size, length, or style of a garment. They can make a garment larger, smaller, shorter, or longer. Buttons and trims can be added, moved, or changed. (Basic alterations were discussed in Chapter 12.)

When you are deciding whether or not to buy a garment that needs alterations, there are some factors to consider, 16-6. Some alterations are easy to do, while others are more complicated and are seldom effective or successful.

It is important to check seam widths. If a garment is to be made larger, the seams must be wide enough to accomplish this. When a garment is to be made longer, check to see if there is enough hem width to let it down.



LANDS' END

16-5 When your clothes fit properly, they help you look your best.

Alterations that are easy to do include lengthening or shortening a garment, leveling an uneven hem, shortening sleeves, or taking in some seams.

Major alterations in ready-to-wear clothing may not be effective or worthwhile. For instance, if a jacket is too full or too tight across the shoulders, major alterations would be required. The sleeves might have to be removed and adjusted. The lining and shoulder pads would need to be adjusted. Unless you are an experienced sewer, this alteration is usually not recommended.

Changing a neckline is another difficult alteration. When a neckline is adjusted, the

garment may not hang straight. The shoulder seams may also need to be adjusted which would affect the sleeves.

If a garment is too large in the waistline, you will probably have to remove the waistband. The seams and the waistband would need to be adjusted. The zipper area may also need to be altered.

Unless ready-to-wear garments requiring major alterations are exceptionally good buys, it is best to avoid them. Too much altering can change the looks of a garment, and it may never look just right.



SPIEGEL, INC

16-6 *Jackets are more difficult to alter than dresses or skirts.*

ACCENT ON ACCESSORIES

Accessories are fun to choose and wear. See 16-7 and 16-8. *Accessories* include shoes, legwear, handbags, billfolds, neckties, jewelry, and belts. They are the



J.C. PENNEY

16-7 *This colorful display suggests accessories to buy for summer fun.*



J.C. PENNEY

16-8 *Attractive displays in stores are helpful in showing you how accessories can add variety to your wardrobe.*

items you need to complete an outfit. Accessories add variety to your wardrobe. The right ones can change a plain, dull outfit into the latest look. You can take the same outfit and make it casual or dressy, depending on the accessories you wear with it.

Before you shop, look over your wardrobe and make some decisions about what kinds of accessories you could use. Consider the main colors in your wardrobe. To repeat a color in your outfit and in your accessories helps give you a coordinated look.

Keep in mind your size and body build when selecting your accessories. For instance, small persons look better wearing small accessories. Large accessories seem to overpower them.

Most accessories cost less than clothes. But if you buy several of them, the prices can add up to a lot of money. Knowing more about accessories will help you get the most for your money.

Shoes

Shoes are the most important accessory in your wardrobe. They should be chosen with care. You may need new ones because your present pair is worn out or too small. A special occasion or a new outfit may be your reason for buying new shoes. In any case, look before you buy. There are hundreds of styles from which you can choose, 16-9.

Shoes are expensive. The ones you wear most often should be comfortable and of good quality. You can spend less money on the shoes that you seldom wear.

Good fit is the most important feature of shoes. Good-fitting shoes provide comfort and correct support to your feet. If fitted correctly, they will not be too short, too loose, or too tight.

Poorly-fitted shoes can cause foot disorders. These include bunions, corns, calluses, and ingrown toenails. They cause discomfort and can contribute to poor posture. Do not rush when buying shoes. Since feet tend to swell during the course of the day, try to buy shoes toward the end of the day when your feet are largest.

At better shoe departments, you can have your feet measured, 16-10. You should stand to have your feet measured. Since one foot is often larger than the other, shoes should be fitted to the larger size. Innersoles or pads can be placed in the shoe of your smaller foot for better fit and comfort. When trying on shoes, wear the same type of socks or hose that you plan to wear with the shoes you buy.

16-9 Take time to select athletic shoes that might get hard wear. Select the right style for your needs and try them on to see how they feel.





16-10 When buying shoes, both feet should be measured while you stand. Feet grow until you are about 20 years old.

Shoes vary in width as well as length. They are often sized by both a letter and a number such as 7A or 9D. The number refers to the length of the foot. The larger the number, the larger the shoe will be. Half sizes of each number such as 7 1/2 are available. The letter refers to the width of the shoe. The width AAA (triple A) would be very narrow, while EEE (triple E) would be quite wide. There are special stores that offer shoes in unusual sizes and widths.

Don't buy according to size. Buy according to fit — no matter what the numbers say. One manufacturer's 8B may be another's 7C. A size made by one manufacturer may not fit as well as the same size made by another manufacturer.

Walking in shoes helps you to judge the comfort and fit. Try on both shoes and walk in them. The widest part of the shoe should fit the widest part of your foot.

When you stand, shoes should be one-half to three-fourths inch (1.3 to 1.9 cm) longer than your foot. Check the fit in the instep, in the heel, and over the arch. Examine the material and construction. Will this style, color, and quality fit your needs?

Choose shoes that flatter your feet. If your feet are large and wide, plain, dark colors are best for you. Choose styles that are plain or that have narrow straps. Light-colored shoes will make your feet seem larger than they are.

Never buy shoes that you have to "break-in." Shoes should not be even a little uncomfortable when you buy them. Do not accept a salesperson's statement that the shoes will feel better after you have worn them a few hours.

Types of shoes. Many people feel that they need at least several types of shoes. These may include casual, dress, and athletic shoes.

Casual shoes should be selected carefully. These are the shoes you will probably wear most often. Casual shoes are often worn to school. They should be comfortable and give your feet support.

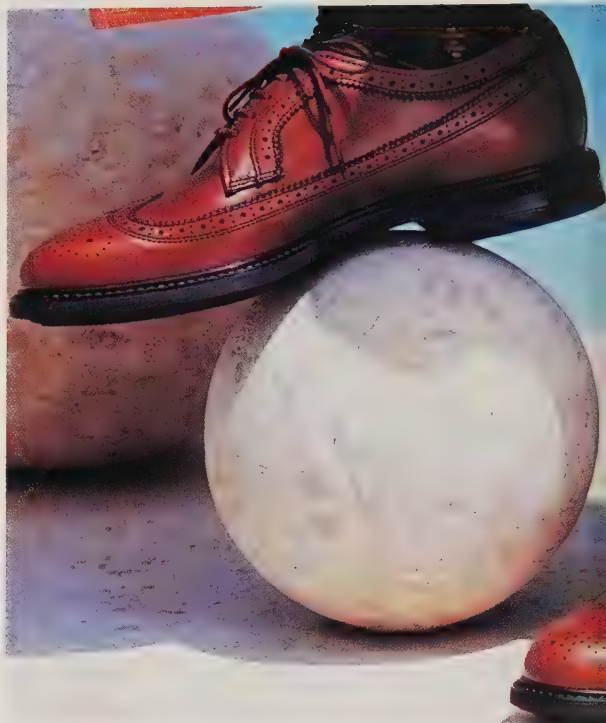
Dress shoes often last longer than casual shoes since they are not worn as often. A basic or classic style is a smart buy since it will remain fashionable longer. Young and adult men wear many of the same shoe styles for dress. High heel shoes are popular from time to time as dress shoes for girls and women. The higher the heel is, the more weight that is thrust upon the ball of the foot. This could cause foot problems. High heel shoes can also cause unsteadiness which can increase the likelihood of a twisted ankle or a strained back. If high heels are selected, care should be taken to wear them only for short periods of time.

Athletic shoes are a popular shoe for many members of the family. These shoes are carefully designed for different sports such as basketball, tennis, aerobic exercise, walking, and running. See 16-11. Athletic shoes are now worn to school and other everyday activities.

Some shoes are fads. Often, they are extreme styles and provide poor foot support. For instance, platform shoes were popular in the 1970s. Some styles were so extreme that they caused many people to sprain their ankles. Other shoes start out as fads



16-11 When buying athletic shoes, consider the type of sport or activity for which they will be worn.



MENS FASHION ASSOCIATION

16-12 These leather shoes will keep their shine and always look good when kept polished.

and become classics. Two examples are clogs and European sandals.

Caring for your shoes. Your shoes will last longer and look better when they receive proper care.

Leather shoes should be polished when needed, 16-12. If they get wet, take them off as soon as possible. Dry them away from heat. They may shrink or stiffen if they dry near heat.

Shoes of manufactured materials can be cleaned with a damp cloth. Fabric shoes can be washed with a mild detergent and soft brush. Some can be cleaned in automatic washing machines and dryers. Check directions for care of your new shoes when you buy them. You can save money by taking good care of your shoes!

Legwear

Fashions in legwear change as quickly as in clothing. Your choices depend on what you think is right for you and for the styles you like. Consider your activities, the clothes you own, what looks best on you, and the money you have to spend.

Young men's socks vary in length. The three common lengths are ankle, mid-leg, and knee. Sometimes they are called short, medium, and long lengths. Socks are sized according to the distance from heel to toe. Sizes usually range from 8 to 13. Stretch socks are popular since they will fit feet of any size. Correct size is important. Socks that are too short can be uncomfortable and can cause physical damage. Ingrown toenails are often caused by short socks.

The choice of color and design is yours. Bold designs and bright colors appeal to many. Bulky yarns can be used to create novelty effects. Dark, solid colors are a good choice for most occasions.

Most socks are made of manufactured fibers. They hold color well and are easy to launder. But some socks of wool, wool-blends, and cotton are available. They are more absorbent than synthetics. Wool socks must be washed in lukewarm or cool water, using a mild detergent. Drying flat or with a cool temperature setting in the dryer will keep them in good shape. They cost more than socks made of manufactured fibers.

In choosing legwear, girls have more decisions to make. They can choose between socks, hose, and tights, 16-13. If they select socks, they can choose anklets, or knee-highs of either bulky or smooth knit. Then they make the same size, color, and design decisions as men. Novelty patterns can be fun for both guys and girls. See 16-14.

Pantyhose and knee-length hose are worn with skirts, dresses, and slacks. The sizes for hose are different from those for socks. They are often sized according to height and weight. Charts are often on the hosiery package to help you make the right decision. Your hose and socks will also last longer if they fit correctly.

Stretch hose adjust to all sizes. They fit snugly and are low in price.



SIMPLICITY PATTERN COMPANY, INC

16-13 When you coordinate your legwear with your shoes and clothes you can make an attractive outfit.



16-14 It is fun to select socks to go with an outfit or that are more unique.

Tights are popular for winter wear with skirts and shorts. Tights come in different colors, designs, and weights. Tights are made of cotton, nylon, polyester, or wool. Lycra and spandex fibers add stretch.

A large part of accessory allowance is spent for legwear. Knowing the terms irregulars and seconds can help you save money. *Irregulars* have slight flaws. The flaws are in either the fabric, color, or size. These flaws will not affect wearing quality. Irregulars are usually good buys if you wear them with slacks or for casual wear.

Seconds have slight mistakes in construction. This could be a mended place or a run. They are seldom good buys.

Hose and tights should be washed with care. If you wash them by hand, remove

your rings and check for rough fingernails. Use mild detergent and warm water. Rub toes between fingers to remove perspiration and odor. Rinse well. Wrap in a towel to remove excess moisture. Hang them on a smooth rod to dry.

Mesh bags are available to hold hose and tights if they are put in an automatic washer. Wash them with other delicate garments.

Handbags

Most young women have at least one handbag or purse in their wardrobes. Your activities, body size, and personal taste are the main factors in choosing a handbag.

Handbags are available in all sizes and shapes. They are made of various materials



16-15 A belt pack would be great to wear shopping, hiking, or when traveling because your hands are free.



16-16 Examine a purse carefully before you buy it. Look for signs of quality and convenience.

including leather, vinyl, fabric, and cord.

Shoulder bags have a long strap that hangs over your shoulder. It leaves your hands free to carry or do other activities. A smaller purse is the “wallet on a string.” It has a strap that is worn over the shoulder and across your chest. Sections inside provide for credit cards, keys, a pen, and money. Another purse is the waist or belt pack. It fastens around your waist with an adjustable strap and buckle. It is a very secure way to carry your money and credit cards, 16-15.

Before you buy a purse, examine it closely, 16-16. Look for rough seams or edges. Check the fastener. It should open easily and close securely. Look for handy compartments that help keep your belongings in order. Check how the handles are attached to the purse. Handles attached to rings are often more durable.

Brightly colored purses might be fun to carry. If your money is limited, a purse in a neutral or basic color would be a better choice. It would look right with more of your outfits.

Billfolds

Billfolds are made of leather, vinyl, or fabric. Leather billfolds are often the most expensive, but they last longer than those made of fabric or vinyl. Billfolds can range in price from low to expensive.

Billfolds for women often have a compartment for coins as well as bills. The area for coins may be small or the entire length of the billfold. A section for photos and cards is often included. Snaps, clasps, or zippers are used for fasteners.

Men usually carry their billfolds in their pants pockets. Some billfolds are suede-like on the outside to help prevent pick-pocketing. The rough finish makes it difficult for someone to slip it out of the pocket. Men’s billfolds contain a compartment for bills and a section for cards and photos.

When buying a billfold, check for quality. Be sure bindings are sewn securely and that no rough edges are present. Check zippers and clasps. Do they open and close easily? Does the size of the billfold fit your needs and spaces for carrying it?

Neckties

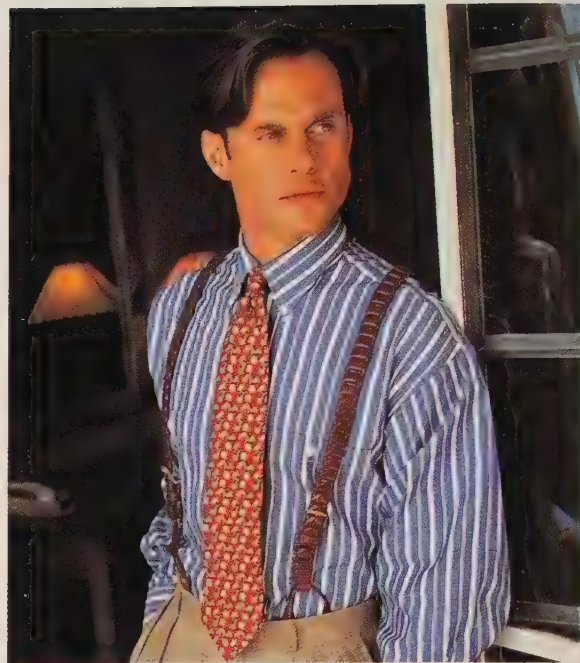
Why does a man wear a necktie? Is it because he wants to appear dressed up? Is it because other men wear them? Or is it just a habit to put one on when he puts on a suit?

The only function of the necktie is for appearance. It can express the wearer's individuality and personality. A conservative man may prefer to wear ties of dark colors either in solids or small patterns. An outgoing man will select bolder patterns and brighter colors.

Fashions in neckwear change just as other fashions do. Look at the many patterns of neckties in 16-17. Within the last five years, neckties have changed in width, color, design, and fabric. Both long and bow neckties have been popular. See 16-18 and 16-19. You can buy neckties that are pre-tied, or you can tie your own. Study 16-20 until you can tie a perfect tie. Try all

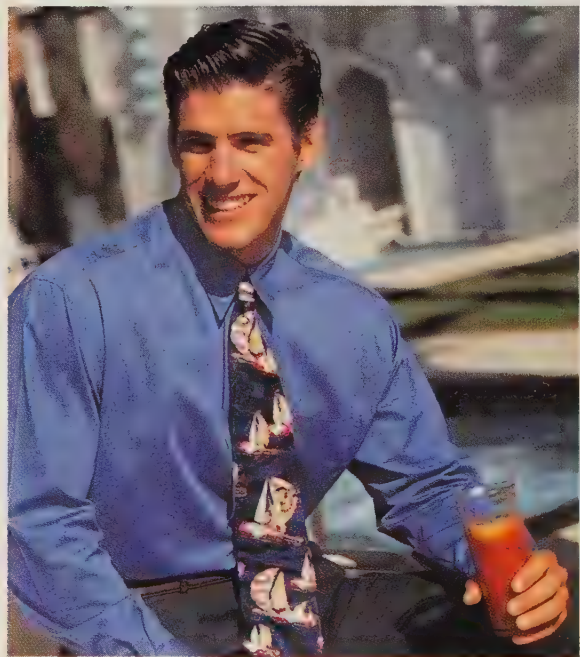


16-17 An endless variety of neckties is available. Choose one to match your personality as well as your jacket.



THE FASHION ASSOCIATION

16-18 A necktie can be a clue to a person's personality.



THE FASHION ASSOCIATION

16-19 Would you prefer this tie or the tie in 16-18? Why?

FULL WINDSOR



1. With wide end longer, loop over short end as shown.



2. Bring wide end around behind narrow end.



3. Then up and over side opposite loop to form a "V" knot.



4. Now bring wide end around front of tie, then behind and through center of tie as shown.



5. Work wide end through loop in front of tie.

6. Dimple and tighten for classically elegant knot.

BOWS



1. The beginning is easy—put the tie around your neck. Make sure one end is shorter than the other.



2. Cross the longer end over, then under the shorter, through the loop.



3. Double the short end to form the base.



4. Pick up the long end where you left it in step 2. Place the base across the collar points and drop the long end over the center.

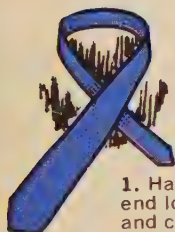


5. Fold the long end back on itself and bring the resulting loop under and behind the tie; poke it through the knot—make sure the flat part is on top.



6. Now adjust by tugging the edges of the bow. Not too tight now. Congratulations, you've just tied an elegant bow.

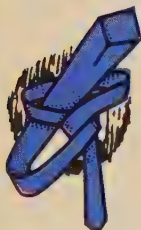
FOUR IN HAND



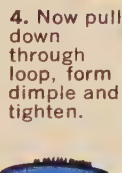
1. Have wide end longer and cross over narrow end.



2. Bring wide end around and behind narrow end.



3. Then completely around and over the front, then continue around and up through center of tie.



4. Now pull down through loop, form dimple and tighten.



5. A knot perfect in size, softly draped with a neat dimple.

HALF WINDSOR



1. With wide end longer, loop over narrow end.



2. Bring wide end around and behind narrow end.



3. Continue wide end around and cross over front, bringing it under and through center of tie.



5. Now pull down through loop to form dimple and perfect knot.



4. Work wide end down through outer loop in front.

16-20 Here are four ways to tie a perfect tie.



16-21 Scarves can stretch your wardrobe by changing the look of your outfits.

four kinds: bows, four in hand, half Windsor, and full Windsor.

Many neckties are washable. Others must be dry-cleaned. Check the care label to see how to clean yours.

Scarves

Scarves can be used to keep your neck warm, to protect your coat collar from soil, and to add interest to your outfit. They are available in wool, wool-blends, cotton, silk, and other fibers. The fabrics range from thick, warm, and bulky to thin and flimsy.

A new way to wear scarves appears as fashions change. Shapes, colors, and sizes vary with the season. Squares, triangles, and rectangles are sometimes small, sometimes big.

Adding a bright scarf to an outfit can give it a new, lively look. Scarves can be used in many ways as shown in 16-21.

Scarves add individuality to your clothing. They help you create more outfits from your same garments. Because of the wide selection and low price of scarves, you can use these fashion accessories as your imagination and creativity dictate.

Jewelry

Costume or fashion jewelry is distinguished from fine jewelry only by the material used to make it. *Fine jewelry* is usually made from gold, silver, or platinum. It may contain precious or semiprecious stones. Diamonds, rubies, sapphires, and emeralds are types of *precious stones*. Jade, garnet, opal, and amethyst are types of *semiprecious stones*.

Costume jewelry is made from many materials. The design is often the same for both fine and costume jewelry. Few teens can afford fine jewelry, but may be able



INTERNATIONAL WOOL SECRETARIAT

16-22 This woman has used jewelry to accent a simple outfit. Costume jewelry is fun to wear and adds a finished look to outfits.

to afford costume jewelry, 16-22.

The wide variety of designs, colors, and shapes makes looking at jewelry fun. But these factors make your final choice difficult. Planning will help. Decide what you need and what will go with several of your outfits. Know how much money you can afford to spend. Then look for the jewelry that will show your individuality.

Jewelry is both *functional* and *ornamental*. Watchbands, cuff links, and tie-tacks are types of functional jewelry. Ornamental items are rings, bracelets, necklaces, and earrings.

Jewelry craft classes can be fun. Many inexpensive materials are used such as

leather, plastic, glass, wood, and metal. Making your own jewelry is a source of pride, and you can enjoy sharing your handiwork with others.

Belts

Belts can have a function or they can be decorative, 16-23. They are available in many materials. Leather, vinyl, metal, and fabric are some of your choices. There are wide, narrow, stretchy, thick, thin, heavy, and lightweight styles. Designs are varied. Some belts are worn by both guys and girls.

Belt sizes correspond to waist measurements. Try on a belt before buying it. Keep your overall body size in mind. A belt that is wide and heavy might look better on a large person.

You may want to use your creativity to make your own belts. Leather is one material you could use. Kits are available to make Western belts. They look super with jeans.

Tooling leather is fun, but special equipment is needed. This is often a crafts project in schools. Leather is labeled either top grain or split. *Top grain leather* has the natural animal grain. It is smooth and expensive. *Split leather* is from portions of hides or skins that are split into two or more thicknesses. It is rough, so many people prefer it to have a suede finish.

Belts should be cleaned as needed. If they become heavily soiled, cleaning is more difficult. Cleaning methods for belts, like those for shoes, vary with the materials used to make them.

PAYING FOR WHAT YOU BUY

After careful shopping, you are ready to pay for your purchases, 16-24. The cashier may ask you if you want to pay with cash,



INTERNATIONAL WOOL SECRETARIAT

16-23 This woman's belt might be functional as well as decorative.



FEDERATED DEPARTMENT STORES, INC.

16-24 Cash, check, or charge? You may have several options of how you will pay for clothing.

check, or credit. Or you may want to put your purchases on layaway. The decision is yours!

Paying with cash

Paying for clothing with cash is the quickest and easiest way to buy. You can buy what you like no matter where you shop because all stores will take cash as payment. Paying with cash has several advantages. There are no finance charges when you pay with cash. (A *finance charge* is the price you pay for credit.) Also, you will not go into debt because you will only spend the amount of cash you have.

Paying with a check

As with cash, you can avoid finance charges by paying by check. Using a *check*

HOW TO WRITE A CHECK

- Write clearly with ink.
- Date the check with month, date, and year.
- After words "Pay to the order of," write the name of the store to whom you are paying the money. Ask the clerk for the correct title to use. If you are unsure of spelling, ask for help.
- Write the amount of the payment in numerals, close to the dollar sign. Make your first number as close as possible to the sign.
- Write the amount of the payment in words at the beginning of the next line. After the dollars amount, write the word, "and." The amount of cents may be written as 25/100, or 00/00, or no/100. Draw a line through the space that is left in the line.
- Sign the check exactly as you signed the signature card when you opened the account.
- Record the amount of the check and the name of the store to whom the check was written. Also record the date and what you purchased.

16-25 Study these guidelines to learn how to write a check.

is a way of paying for something without using cash. You can put your money into a bank account and write checks on the account to pay for your purchases. As you write a check, you are actually letting the bank pay your bill from your account. Your check gives the store the right to collect the money you owe. Guidelines for writing a check are given in 16-25.

Sometimes banks have a service charge for checking accounts, or they may charge a certain amount for each check written. Check with banks to find the checking account that best suits your needs.

If you plan to pay for your purchases by check, find out the store's policy regarding checks. Some stores will not accept checks. Others may require that you show several pieces of identification such as a credit card and a driver's license before they will accept a check.

As you write a check, write clearly in ink. Study the details of the check in 16-26 to understand how to write a check correctly. Be sure to keep an accurate record of all checks you write to help you to remember whom you paid, how much you paid, and when you paid.

Using credit

Buying on *credit* is a promise to pay in the future for what you buy today. When you buy on credit, a card is usually presented instead of cash or a check. People often purchase clothing on credit because it can have several advantages. But buying on credit can have disadvantages, too. For a list of advantages and disadvantages of using credit, see 16-27.

Types of credit. The two major types of retail credit are the regular charge account and the revolving charge account.

PAYEE'S NAME: AMY L. NELSON
123 WEST TAFT DRIVE
SOUTH HOLLAND, IL 60473

DATE: Jan 4 19 XX

AMOUNT (IN NUMERALS) WRITTEN CLOSE TO THE DOLLAR SIGN: 5791

PAY TO THE ORDER OF: Mary's Boutique

AMOUNT (IN WORDS) WRITTEN AS FAR TO THE LEFT AS POSSIBLE, AND LEFTOVER SPACE FILLED WITH A LINE: Twenty Eight and 50/100

ITEM PURCHASED: Brown Print Blouse

SIGNATURE WHICH MATCHES THE ONE FILED WITH THE BANK: Amy L. Nelson

SOUTH HOLLAND BANK

FOR: Brown Print Blouse

659 060 81

16-26 Checks should be written neatly and correctly to avoid errors.

BUY ON CREDIT— ADVANTAGES AND DISADVANTAGES

ADVANTAGES

- It's convenient. You don't have to carry large amounts of cash and you don't have to go through the process of writing a check.
- You can use goods and services before or as you pay for them.
- You can buy costly items that you might not be able to buy with the amount of cash available.
- It usually simplifies exchanges, returns, and telephone orders.

DISADVANTAGES:

- You reduce your future income.
- Using credit usually costs money. The more credit you use and the more time you take to repay, the more you must pay in finance charges.
- You may be tempted to overspend because of impulse buying.
- Failure to pay promptly could result in a poor credit rating.

16-27 Using credit has both advantages and disadvantages.

With the *regular charge account*, you may charge purchases in exchange for your promise to pay in full within 10 to 30 days after the billing date. You will receive a bill or statement. If you pay on time, there is no finance charge.

The *revolving charge account* allows you to make purchases up to a limit set by the creditor and the customer when the account was opened. If you pay in full, there is no finance charge. If you do not pay in full, there is a finance charge on the unpaid balance. You are required to make at least the minimum payment each month. This amount is specified on the bill.

Credit cards. Credit cards are most often used to make credit purchases. Many stores issue their own credit cards. Other cards are issued by financial institutions such as banks and by credit card companies. Sometimes a membership fee is charged for these cards.

When you apply for credit, you will be asked to complete an application form.

Read the credit contract before signing. Sign only when you are sure you understand all the terms and obligations and can meet those terms and obligations. See 16-28 for tips on using credit cards.

Layaway buying

Layaway buying is placing a small deposit on an item so that the store will reserve it for you. Sometimes the deposit is at least 10 percent of the cost of the item. Payments are made each week or month until the full amount is paid. When you make the last payment, you receive your item. Usually there is no interest charge on the unpaid balance of layaway purchases. However, there may be a service charge.

Layaway buying can be an advantage if you need a major item. Suppose you will need a coat for next season. While shopping you find a coat that is a good buy, but

you don't have enough money to buy it now. You could put the coat on layaway. The disadvantage of layaway is having to wait weeks or months before you can get your item. Also, if you fail to complete the payments, you will lose the item, and in some cases, the money you have already paid. Be sure to check the store's layaway policy before making a layaway purchase.

CREDIT CARD TIPS

- Know your rights and responsibilities when using credit. Be aware of current consumer legislation.
- Avoid finance charges by paying off balances on your account.
- Know your credit limit and stay within that limit.
- Keep accurate and complete records of your credit purchases including receipts, charge slips, contract agreements, and correspondence.
- Protect your credit rating by paying promptly.
- Prices of credit vary. Shop for the best credit deal.
- Notify creditors without delay if your credit card is lost or stolen or if you cannot pay as agreed.

BUYING IT RIGHT

- Do not be an impulsive buyer. With pencil and paper, outline what you already have and what you need to update your wardrobe.
- Go through your closet at least twice a year to find the garments you had forgotten. A particular shirt may not have worked six months ago. Now you may have just the thing to wear with it.
- Know what you like. Take time to think what kind of clothes you wear most often.
- Do not skimp on important things like a coat or shoes that you wear often. You will save with quality in the long run.
- Go shopping only when you need something specific. This is the way to buy only what you need.
- If you sew, make quick and easy things. Save money to buy suits, jackets, etc.
- Keep your wardrobe down to two or three basic colors so you can mix and match.
- Check sales for out-of-season bargains.
- If you find one brand that fits you well, buy it again.
- Consider the upkeep on anything you buy. Dry-cleaning is costly.
- Buy all-season clothes. You will not need new clothes several times a year.
- Do not buy something that needs many alterations. Too much altering changes clothes, and they never look just right.
- Shop at stores that will accept returns and make exchanges.
- Save all sales slips and hangtags.

16-28 Study these credit tips to learn how to use credit wisely.

These hints can help you to get your money's worth and be happier with your wardrobe.

to know

accessories	precious stones
alterations	quality
check	regular charge
costume jewelry	account
credit	revolving charge
credit card	account
fine jewelry	semiprecious stones
functional jewelry	split leather
layaway buying	standards
ornamental jewelry	top grain leather

to review

1. The _____ of an item depends on the performance of its characteristics.
2. List five points to check before buying jeans or slacks.
3. Why are accessories needed in your wardrobe?
4. List four items that are considered accessories.
5. _____ are the most important accessory in your wardrobe.
6. How are shoes sized?
7. Describe fad shoes.
8. Explain the difference between irregulars and seconds in legwear. Which is the better buy?
9. What is the purpose of wearing neckties?
10. (True or False) Costume jewelry is more expensive than fine jewelry.
11. Which of the following is an example of functional jewelry?
 - a. Earrings.
 - b. Rings.
 - c. Cuff links.
12. (Top grain, Split) leather is often given a suede finish.
13. List four ways to pay for purchases.
14. List two advantages and two disadvantages of using credit.

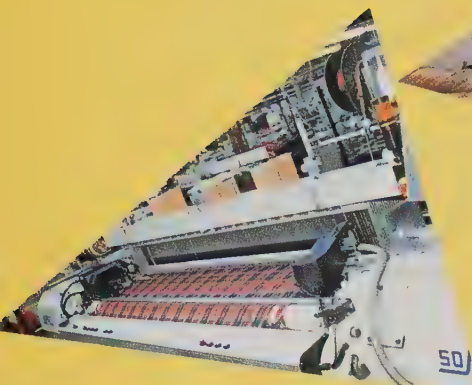
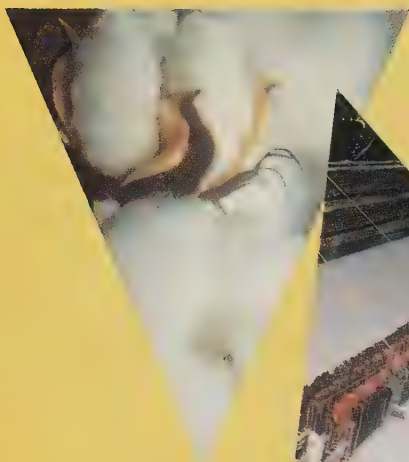
to do

1. Have a student bring a suit to class and “model” it. Judge the fit according to the buying guides. Have other students “model” blouses, shirts, jeans, skirts, and dresses.
2. Select fashion pictures of guys and girls with accessories. Discuss. Make an attractive bulletin board.
3. Discuss personality traits shown in selection of accessories.
4. Bring accessories to class that can be considered unisex. Discuss.
5. Visit a shoe department or store. Ask the clerk to discuss materials used, proper foot measurements, and shoe fit. Examine the quality of shoes on display. Compare prices.
6. Bring a necktie to class and practice the different knots.
7. Practice several different ways to wear a scarf.
8. Make two lists of jewelry appropriate for school wear. Head columns: “Guys” and “Girls.” Compare lists.
9. Figure the differences in cost and convenience for a coat that you can:
 - a. Buy for \$150.00 cash.
 - b. Buy on credit at 21% interest.
 - c. Buy on the layaway plan, paying \$25.00 per month.
10. Obtain a credit card application. Analyze it. Explain why you think all the questions are asked.
11. Invite a representative from a local department store to speak to your class about buying clothes and accessories. Prepare a list of questions to ask the person about how to choose quality items.
12. Write an article for your school or community paper entitled, “How to Get Your Money’s Worth.” Select an item of clothing or an accessory to feature in your article.



COTTON INCORPORATED

Nice clothes are an investment. Choose them carefully to make sure you get your money's worth.



Part 4

Knowing Before Sewing

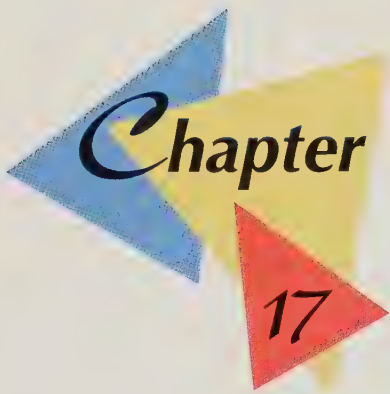
17 *The Textile Evolution*, 268

18 *From Fiber to Yarn*, 278

19 *From Yarn to Fabric*, 302

20 *Sewing Equipment*, 318





The Evolution of Textiles and Garment Making

After studying this chapter you will be able to

- discuss how textiles have evolved from prehistoric times to the present.
- list developments in the textile industry that occurred during the Industrial Revolution.
- explain the differences between natural and manufactured fibers and give examples of each.
- describe ways computer systems are used in the textile and garment-making industries today.

This chapter tells the story of the development of textiles and garment making. *Textiles* are cloth products. The basic unit of all textiles is the *fiber*. Since time began, people have used textiles to cover their bodies. Throughout history, people have found many other ways to use textiles.

One of the biggest business success stories of the last 200 years is the amazing growth of the textile and garment industry. It is one of the largest industries in the United States, with over 7000 plants in operation. The United States leads the world in textile production.

Clothing is not the only use of textile products. Textiles are used to make sheets, towels, upholstery, carpets, umbrellas, conveyor belts, filters, and space suits. Nose cones, football field turf, and even artificial hearts are made from textiles, too. See 17-1. Textile fibers are used for everything from blouses to buildings!

TEXTILE HISTORY

From the Stone Age to the Space Age, the types and uses of textiles have changed

greatly. To appreciate textile production today, you need to know a bit about the history of textiles.

Early wearing apparel

Fiber fragments have been found in archaeological excavations dating back thousands of years. Pictures found on the walls of caves show that people in the Stone Age used animal skins as clothing. These sources give evidence about some of the earliest uses of textiles and clothing.

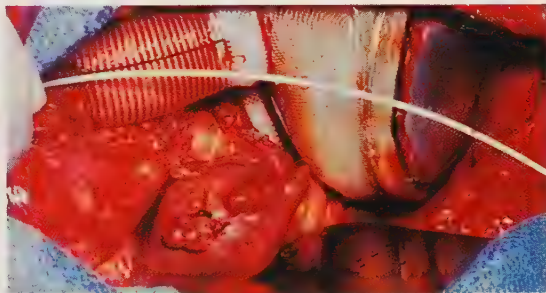
Historians know that prehistoric people living in cold climates used animal skins to

cover their bodies. As people learned to make and use tools, they applied these skills to the making of clothing. Animal skins were softened by rubbing them with stones or beating them with sticks. Needles were carved from bones. Thread was made from tendons of animal muscles. People were able to use these tools to sew sections of skin together to form more closely-fitted garments, 17-2.

Early people living in hot climates wore clothing as protection from the hot sun. These people made garments from trees and plants. They gathered bark from cer-



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)



AMERICAN TEXTILE MANUFACTURERS INSTITUTE



J.P. STEVENS AND COMPANY

17-1 All of these items have something in common. They are all made of textiles.

tain trees and soaked it in water. The bark was then pounded into a thin sheet and treated with oils. This produced a soft, strong fabric that could be used to make clothes. Soft grasses were also used to make garments and other items. Grasses were



17-2 Early people used animal skins as garments.

gathered and laced or woven together to form loose-fitting garments, hats, fishing nets, and baskets.

In ancient times, groups of people wandered from one place to another hunting food. Later, people began to live together and villages were settled. By living in one place, people had more time to develop skills. They learned how to grow plants and raise animals for food.

The raising of plants and animals led to the development of fabric making using natural fibers. *Natural fibers* are fibers taken from nature, such as cotton, flax, wool, and silk. People discovered that the seed pods of cotton plants and the inner section of flax plants contained fibers. They discovered that the hair of sheep and the cocoons of silkworms were fibers, too. They learned how to use these fibers to make cotton, linen, wool, and silk fabrics, respectively.

For hundreds of years, cotton, flax, wool, and silk were the only fibers in use. All fibers were spun into yarns by hand. The weaving of yarns to make fabrics was done by hand, too.

The Industrial Revolution

In colonial days, tailors and dressmakers made clothing mainly for wealthy people. Clothing took many hours to make and was expensive. Most families took care of their own needs for cloth and garments. They spun yarns and wove fabrics using spinning wheels and looms in their own homes. The handwoven fabric was cut into pieces and sewn into garments by hand.

In England in the late 1700s, the production of textiles began to change. This time period signaled the start of the *Industrial Revolution*. This was a movement marked

by major changes in the economy due to the invention of many machines. This movement was also sparked by the introduction of steam power and the development of the factory system.

In 1769, Richard Arkwright invented a spinning frame. It combined several hand-operated spinning devices into one large machine that was driven by water power. Sixteen years later, in 1785, Edmund Cartwright invented a steam-powered loom. Then the spinning and weaving steps were brought together under one roof in a *textile mill*. Inside the mill, raw materials were made into finished cloth. The first successful textile mill in the United States was built in 1789 by Samuel Slater.

In the years that followed, many other machines were invented that affected the textile industry. The use of these machines allowed fewer people to produce more fabric than ever before. Study chart 17-3 to see some significant inventions of this period.

Although the production of fabrics had evolved greatly, most garments were still being made one at a time. Until the mid 1800s, many women carried work home as a job. They were paid a certain amount for each garment or each step they finished. This was called *piecework*.

During the Civil War, *mass production* started to take over. Garment factories were built where many garments could be made at the same time. Instead of one person sewing an entire garment, several people shared the job. Each person sewed only one part of the garment. A worker might sew only leg seams or collars. Then the item was passed to someone else to complete another step. This continued until the garment was completed.

One of the inventions that greatly increased production was the band knife machine. Until the advent of this machine,

INVENTIONS IN THE TEXTILE INDUSTRY

1733 John Kay—Flying shuttle

A tool used to weave the crosswise threads back and forth on a loom. Before this invention, the shuttle was moved by hand. On wide fabrics two weavers operated the shuttle. With Kay's shuttle, the weaver pulled a stick and the shuttle automatically moved across the loom, hence the name the "flying" shuttle.

1769 Richard Arkwright—Water frame

This spinning machine was powered by water instead of by manpower. It was faster than hand spinning.

1770 James Hargreaves—Spinning jenny

Until this time, yarns were spun on a single rod called a spindle. The spinning jenny had eight spindles so a spinner could spin eight yarns at the same time.

1779 Samuel Crompton—Spinning mule

Features of the spinning jenny and water frame were combined into a huge machine. It could produce as much yarn as 200 spinners.

1785 Edmund Cartwright—Power loom

This loom was powered by steam instead of by operators using their hands.

1785 Thomas Bell—Cylinder printing

This invention allowed repetitious designs to be printed rapidly on cotton fabrics. Before this time, designs were block printed by hand.

1793 Eli Whitney—Cotton gin

A machine that separated the cotton fibers from the seeds. Before this time, this was done by hand using various crude tools.

1804 Joseph Marie Jacquard—Jacquard loom

This loom allowed the operator to weave different patterns in fabric automatically.

17-3 Machines invented during the Industrial Revolution had a great impact on the development of the textile industry.

garment pieces had been cut out by hand using shears or a short knife. This machine could cut around pattern pieces through many layers of fabric. Hundreds of pattern pieces were cut out at the same time.

Mass production made it possible to finish garments faster. Each worker became more skilled and could work faster at his or her particular step. Mass production made more clothes available to more people at lower prices than ever before. Production increased and factories were operating around the clock to produce ready-made clothing.

New methods of textile and garment production are continually found. Today, more and better fabrics can be made faster and at less cost than at any time in the past. When you wear a new garment, think of it as the latest advance in an old art. See 17-4.

Developments in the home sewing industry

Two major developments greatly affected the home sewing industry. These were the invention of the sewing machine and the availability of paper patterns.

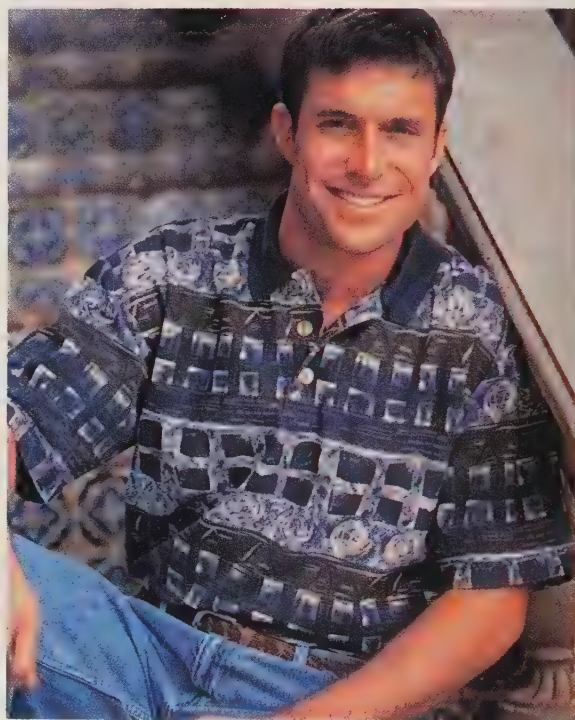
The sewing machine. Years ago, all garments were stitched by hand with a needle and thread. As early as the mid 1700s, attempts were made to develop a machine to sew fabrics. In 1830, a Frenchman, Barthélemy Thimonnier, patented a single-thread sewing machine. A number of these machines were made and used to make army uniforms. However, the machines were destroyed by a mob of tailors. The tailors were afraid they would become unemployed because of the machines.

The first really usable sewing machine did not come about until 1846. In this year,

Elias Howe designed a two-thread sewing machine. This machine had an eye-pointed needle and an underthread shuttle. This design allowed stitches to be “locked” into the fabric.

The first sewing machine that could sew continuously was developed by Isaac Singer in 1851. Howe’s machine was powered by a hand crank, but Singer’s model used a foot treadle to make it run. This allowed the sewer to use both hands to guide the fabric. Electric motors were added to sewing machines in 1889.

Patterns. During the time that all sewing was done at home, people exchanged patterns with each other. They were cut



INTERNATIONAL WOOL SECRETARIAT

17-4 Extensive research and progress in technology have produced beautiful, easy-care fabrics.

from muslin or newsprint and were fitted to the body. Sewers made the pattern pieces larger or smaller as needed to fit family members.

Commercial paper patterns became available to home sewers during the middle of the nineteenth century. One tailor, Ebenezer Butterick, had many requests for patterns he was using. He decided to duplicate and sell them. He started a company to send patterns to customers by mail order. Butterick was the first to make patterns that were graded for different sizes. The company is still in business today selling Butterick patterns. See 17-5.

THE DEVELOPMENT OF MANUFACTURED FIBERS

Manufactured fibers are fibers not found in nature. They are a fairly new development. Experimental production of

manufactured fibers began around 1850. Rayon, originally sold as “artificial silk,” was the first manufactured fiber to be developed. It was first commercially produced in the United States in 1910.

Rayon is produced from cellulose, the fibrous substance in all plants. At first, linters were used as the source of cellulose. (Linters are the small fibers left on cotton seeds after ginning.) Later, wood from softwood trees was used. Two other manufactured fibers are also made from cellulose: acetate and triacetate.

The other manufactured fibers are sometimes called *synthetics*. They are made completely from chemicals. Four elements form the basis for these fibers. They are carbon (from petroleum or natural gas), hydrogen (from water), nitrogen (from air), and oxygen (from air).

The first fiber to be made completely from chemicals was nylon. It was made in 1938 by the Du Pont Company. Other synthetic fibers include polyester, olefin, acrylic, modacrylic, rubber, and spandex.

During the last 30 years, almost 250 different fibers have been manufactured. They represent over 70 percent of the total fibers used by mills in the United States. Manufactured fibers are used to make a wide range of textile products. See 17-6.

Today, more manufactured fibers are used to make clothes than natural fibers. Often, the two types of fibers are used together to take advantage of the good characteristics of each type.

COMPUTERS IN TEXTILES AND GARMENT MAKING

One of the most important technological advancements of the twentieth century is



BUTTERICK COMPANY, INC.

17-5 This is today's version of the paper patterns that were introduced in the 1860s.

TEXTILE TECHNOLOGY

- A temperature sensitive fabric responds automatically to temperature changes. It gets thinner and cooler as the temperature rises and thicker and warmer as it drops.
- A woven fabric is used to make a portable, collapsible bridge for the military. It can span a 60-foot (18.3 m) river in 30 minutes. It is strong enough to support a 20-ton (18 000 kg) tank.
- Aramid, a manufactured fiber that is lighter and tougher than steel, is used to make vests and helmets worn by police officers and soldiers. A seven-layer vest weighs only 2 1/2 pounds (1.1 kg). It can deflect a knife slash and stop a .38 caliber bullet fired from a gun 10 feet (3 m) away.
- Nylon is used to make a "whale" that can suck up 100,000 gallons (380 000 L) of oil spill from an ocean.
- Hollow fibers are used in converting seawater to fresh water. The thin, dense skin of the fibers rejects dissolved salts, but allows water to pass through.

17-6 These are just a few of the many examples of the amazing uses of textiles today.

the development of computers. Computers have touched nearly every area of life, and textiles are no exception. In fact, computers are playing a bigger part in the design and manufacture of textiles than in most any other industry.

A system called CAD/CAM has revolutionized the garment industry, saving time and reducing costs in all areas. *CAD (computer-aided design)* is used to create textile and garment designs. *CAM (computer-aided manufacturing)* is used to control the steps in producing finished textiles and garments.

Textile designers develop designs, patterns, weaves, and suggest color combinations for fabrics. Fashion designers design clothing and accessories to be made from

those fabrics. Both of these designers can use CAD systems to help create the looks they want. As they enter design commands into a computer, their design appears on a monitor. Details are changed until the designer is satisfied.

Textile designers can change the design of a fabric with the proper computer commands. Plaids can be made smaller or larger. Colors can be changed to find the right tint or shade the designer wants. See 17-7.

Computer imaging is a program many fashion designers use. This program has a three-dimensional effect. It allows an im-



PENDLETON WOOLEN MILLS

17-7 Textile designers use computer-aided design to create patterns, colors, and weaves they want in a fabric.

age on the display screen to be turned to any angle. The fashion designer can sketch a garment design on the display screen. Then it can be turned so all sides of the design can be seen.

Pattern makers use CAD systems, too. Pattern pieces can be drawn on the computer screen. The designer may decide to change the shape of the sleeve or move darts to a different location. The pattern maker can input these changes. The computer will automatically change all pattern pieces to go with the changes. Different sizes can be made with only the touch of a few buttons on the computer keyboard. This step is called *pattern grading*. See 17-8.

CAM systems are used in all areas of textile production. Textile makers use com-

puterized machines for knitting, weaving, dyeing, and finishing fabrics.

CAM systems can control all areas of garment making, too. Many garment manufacturers use computers to determine the best layouts for pattern pieces on fabric. Data is entered into the computer as to width of fabric and the amount on each bolt. Pattern pieces are shown on the display screen and moved into position. Plaids and stripes can be matched by computer. Grain lines and nap are automatically checked. Pattern pieces are placed to make the best use of all of the fabric in order to avoid waste.

When the computer operator is satisfied with the layout, a printout is made. This printout is called a marker. It is used as a cutting guide. The pattern size and name



GERBER GARMENT TECHNOLOGY, INC.

17-8 CAD systems allow pattern makers to design, grade, and mark patterns faster and more easily.

of each piece is listed as the marker is being printed.

Garments may not be made at the same place as the patterns are made. Some companies have computers that have a *telecommunications* feature. This allows the marker to be sent electronically to the garment manufacturer.

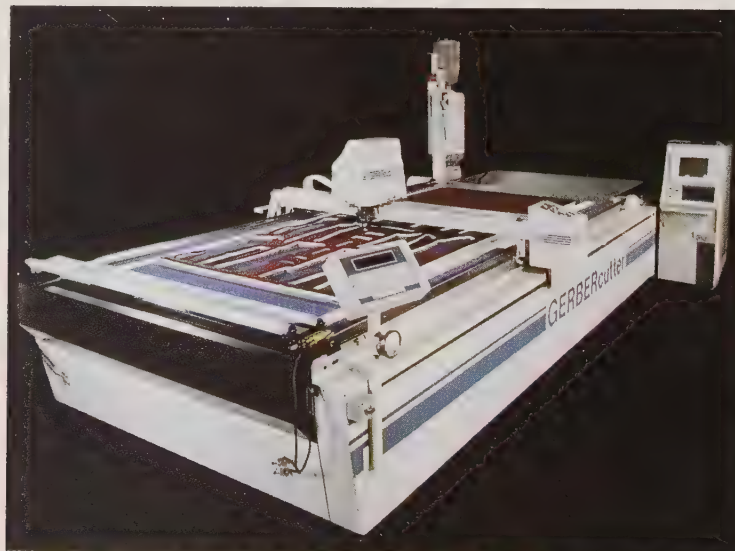
A computer can control the knife cutters, water-jet cutters, and laser beams used to cut layers of fabric. The speed of the cutting device is adjusted according to fabric thickness and the number of pieces being cut. The sizes and shapes of garment pieces are programmed into the computer. The cutters are then preset to cut around the pieces. See 17-9.

Robotic machines are operated by computers. They are being used to completely and automatically assemble and package garments. An operator stationed at a com-

puter terminal controls the system. Garment pieces are moved from one work station to the next when the operator presses a button. One machine will sew, another will trim, and another will press. At the end of the line, garments are labeled and packaged.

CAM systems keep track of inventories, operating costs, and production information. Different terminals throughout a manufacturing plant feed information into the main system. At any time, plant managers have access to information about anything and everything that is going on in the plant.

As computer systems become more advanced, their uses in the textile industry will become even more amazing. In the future, a fashion sketch may enter a computer system, and a finished garment will come out of the other end!



GERBER GARMENT TECHNOLOGY, INC.

17-9 This high-speed, computerized cutting machine can precisely cut out many pattern pieces at the same time.

to know

CAD (computer-aided design)	natural fiber
CAM (computer-aided manufacturing)	pattern grading
computer imaging	piecework
fiber	robotic machine
Industrial Revolution	synthetics
manufactured fiber	telecommunication
mass production	textile
	textile mill

to review

1. List five uses of textile products other than clothing.
2. How were animal skins prepared and sewn in prehistoric times?
3. What did early people living in hot climates wear?
4. Name four natural fibers.
5. A movement in the late 1700s brought on by the invention of many machines was called the _____.
6. Name four inventors and their inventions that affected the textile industry.
7. A manufacturing process that allows large numbers of items to be made at the same time is:
 - a. Industrial Revolution.
 - b. Mass production.
 - c. Piecework.
 - d. Telecommunication.
8. (True or False) The home sewing industry was greatly affected by the invention of the band knife and the availability of paper patterns.

9. What was the first manufactured fiber to be developed?

10. (True or False) Today, more manufactured fibers are used to make clothes than natural fibers.

11. What computer system has revolutionized the garment industry?

12. Give an example of how telecommunication is being used in the garment industry.

to do

1. Find or draw pictures of many new and different uses of textile products. Arrange them on a bulletin board.

2. Write a two-page research report on archaeological evidence of textile and garment use by prehistoric people.

3. Pretend you are an inventor from the Industrial Revolution. Give an oral "sales presentation" to the class. Use visual aids to explain how your invention works. Try to convince your audience why they should give your invention a try. Conduct library research to prepare for your presentation.

4. Work in a small group to research the development and uses of one of the manufactured fibers. Give a panel presentation to the class.

5. Pretend you are a textile designer. Use a school computer and a drawing program to create a fabric design on the video screen. If your school does not have this type of software available, draw your design on paper.



From Fiber to Yarn

After studying this chapter you will be able to

- identify sources of natural fibers.
- describe the basic steps, chemicals, and raw materials used to produce manufactured fibers.
- outline the processes various fibers go through to become yarns.
- list the classifications, traits, and end uses of natural and manufactured fibers.
- associate a fiber with its particular characteristics.
- make wise decisions, based on fiber traits, as you shop for any textile item.

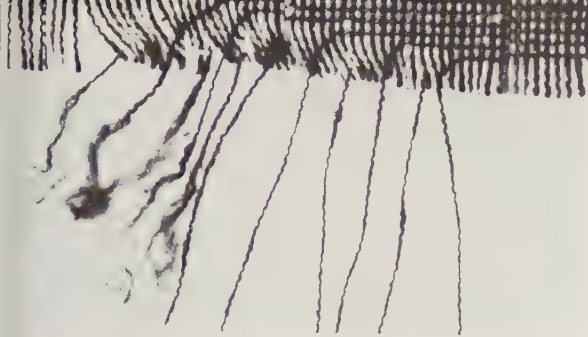
Fibers are the basic units of all textiles. When fibers are put together to form a continuous strand, a *yarn* is made. Yarns are woven or knitted together to make *fabrics*.

Look at 18-1 to see the relationship among fibers, yarns, and fabrics. You can see the same thing by pulling a “thread” from any scrap of fabric. This is a yarn. Untwist the yarn to find the tiny, individual fibers.

Each fiber has its own characteristics and properties, depending on its source. It may be short, long, straight, or curly. Fiber characteristics have a great effect on the characteristics of fabrics. The texture, strength, shrinkage, warmth, absorbency, and durability of any fabric depend largely on its fiber content.

NATURAL FIBERS

Cotton, flax, wool, and silk are the most common natural fibers. But there are many others, as shown in 18-2. Natural fibers vary in quality depending on the kind of animal or plant and the growing conditions. They must be cleaned before they can



18-1 Fibers are combined to make yarns, and yarns are combined to make fabrics.

NATURAL FIBERS	
CELLULOSIC	_____
	Cotton
	Flax
	Ramie
	Jute
	Hemp
PROTEIN	_____
	Wool
	Silk
	Specialty hair fibers
	Mohair
	Cashmere
	Camel's hair
	Llama
	Alpaca
	Vicuña
	Guanaco
	Angora
MINERAL	_____
	Asbestos

18-2 Of all the natural fibers, cotton, flax, wool, and silk are used most often in clothes.

be made into yarns. Supplies of natural fibers vary, according to the season. But they each have unique characteristics that cannot be copied by science. Therefore, natural fibers are still an important part of today's textile story.



SPIEGEL, INC.

18-3 Cotton helps to keep you cool in warm climates.

Cellulosic fibers _____

Cellulosic fibers come from vegetable (plant) sources. There are many kinds of cellulosic fibers, but few of them are used in clothing. Cotton, flax, and ramie are the major natural cellulosic fibers in the clothing field.

Cotton. Throughout history, cotton has played a major role in everyday life. It was and still is the most widely used natural fiber. Cotton has many features that make it great for clothing, 18-3. It is inexpensive, comfortable, and can be used in many ways. See 18-4 for other facts about cotton.

The cotton plant can be grown in any part of the world where the growing season

FIBER

Cotton.

SOURCE

Cotton plant.

ADVANTAGES

- Inexpensive. Supply unlimited.
- Comfortable — cool in warm weather.
- Absorbent — soaks up water easily — good for towels and underwear.
- No static electricity buildup.
- Stands high temperature; does not scorch easily when ironed. Can be boiled to sterilize.
- Versatile; dyes and prints well. Can be combined with other fibers.
- Wide variety of uses.

DISADVANTAGES

- Mildews if put in damp storage area or put away damp.
- Wrinkles easily unless a special finish is added.
- Shrinks in hot water if not treated.
- Weakened by wrinkle-resistant finishes, perspiration and long exposure to sun.

END USES

- Clothing — All kinds of underwear and outerwear. Socks, shirts, dresses, jeans, coats, etc.
- Home Furnishings — Towels, washcloths, sheets, bedspreads, curtains, slipcovers, tablecloths, rugs.

18-4 Facts about cotton.

lasts six or seven months. The United States leads in cotton production, followed by India, China, and Russia.

After the blooms fall from the plant, the seed pod or *boll* grows. Snow-white fibers form from the seeds inside. When it is ripe, the boll bursts open. Many bolls are on one stalk or plant. Cotton can be picked by hand, but mechanical pickers are more common today. See 18-5 through 18-8 for the stages of cotton growth.

After picking, cotton is taken to a *gin*. This machine separates the fibers from the



NATIONAL COTTON COUNCIL OF AMERICA

18-5 When the cotton bloom drops off, the boll forms.



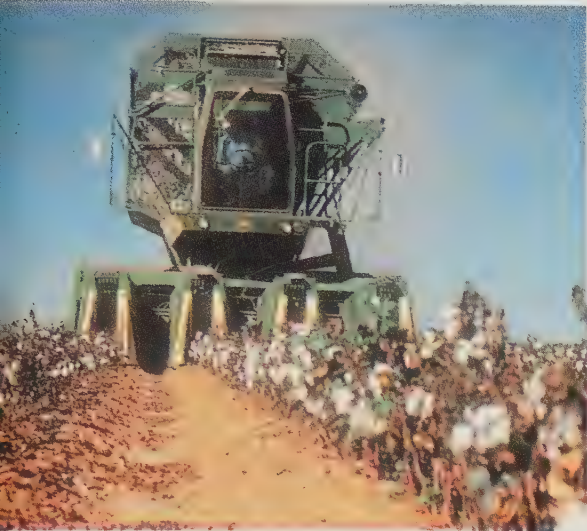
NATIONAL COTTON COUNCIL OF AMERICA

18-6 Cotton fibers form from the seeds inside the seed pod.



NATIONAL COTTON COUNCIL OF AMERICA

18-7 When the cotton boll is ripe, it bursts open. Then the cotton is ready for harvest.



NATIONAL COTTON COUNCIL OF AMERICA

18-8 *In some areas of Texas and Oklahoma cotton is gathered by stripper harvesters which pluck the entire bolls from the cotton plant rather than picking the fiber from the bolls.*



NATIONAL COTTON COUNCIL OF AMERICA

18-9 *At the cotton gin, revolving circular saws pull the cotton through closely-spaced ribs. The seed cannot pass through and falls into a seed bin.*

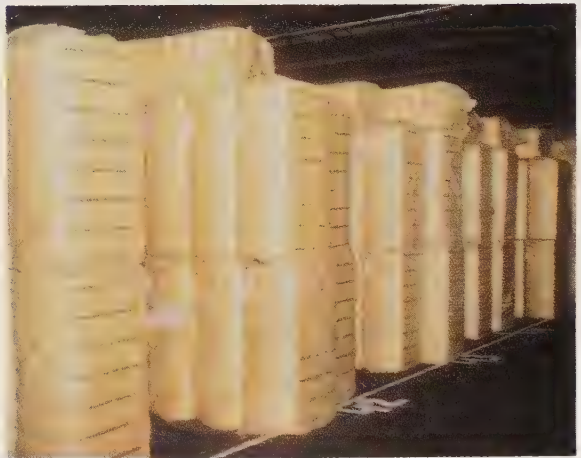


NATIONAL COTTON COUNCIL OF AMERICA

18-10 *In one hour some high-capacity gins can turn out as many as 60 500-pound bales of lint. Lint is the name for the fiber after the seeds are removed.*

seed, 18-9. The cotton is compressed into 500 pound (225 kg) *bales*. The bales are classified and stored in a warehouse until they are sold to mills, 18-10 and 18-11.

Once cotton reaches the mill, it goes through many cleaning and separating



NATIONAL COTTON COUNCIL OF AMERICA

18-11 *Packaged bales of cotton lint are stored in warehouses. They will be shipped to textile mills in the United States or another country.*

steps. After most of the impurities are removed, the fibers are shaped into a *lap*. The lap is a continuous layer of fibers that is wrapped around and around a cylinder.

A *carding machine* is a spinning cylinder covered with short, wire points. It pulls the fibers from the lap, cleans them, and straightens them. Then it shapes them into a much thinner web of fibers. These fibers go through a funnel-shaped device which molds them into *carded sliver* (a soft, rope-like strand slightly thicker than your finger). See 18-12.

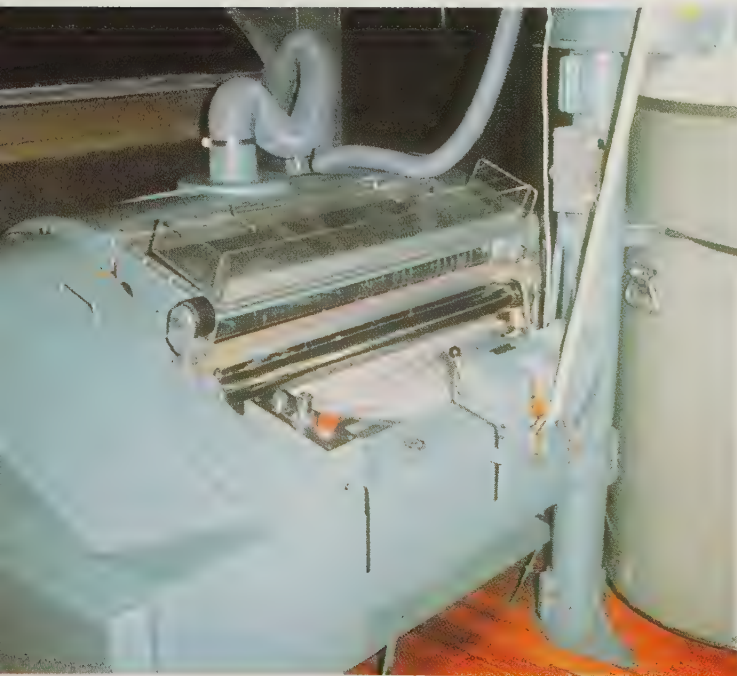
Drawing is the next step. In drawing, many carded slivers are combined into a single *drawn sliver*. The drawn sliver is

“stretched” so that it is about the same diameter as one of the carded slivers. Drawing blends cotton fibers that may have come from different farms. It also arranges them in parallel order.

For finer cottons, drawing is followed by *combing*. Combing is done to make fibers even more parallel and to remove any short fibers. This leaves longer fibers which make smoother, stronger yarns. The product of combing is *combed sliver*. See 18-13.

Drawn (or combed) slivers are fed into a *roving frame* where the cotton is twisted slightly and pulled to become a smaller strand. This strand is called *roving*. It is about the size of your pencil.

Finally, spinning machines pull the roving finer, add more twist, and wind it on bobbins. The tightly wound yarns are ready to be formed into fabric. See 18-14.



NATIONAL COTTON COUNCIL OF AMERICA

18-12 Carding machines separate the fibers from the lap and pull them into a thin web. The web is molded into a soft rope-like strand called a carded sliver.



NATIONAL COTTON COUNCIL OF AMERICA

18-13 The combing machine further straightens the fibers to make smoother, stronger yarns called combed slivers.



NATIONAL COTTON COUNCIL OF AMERICA

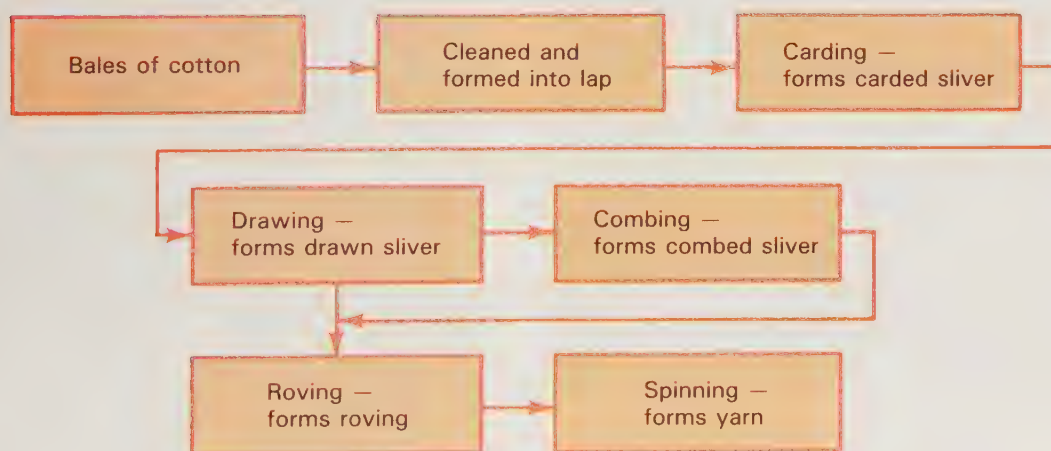
18-14 In the spinning frame, the roving is pulled and twisted into yarn and wound on bobbins.

Study 18-15 as a review of the process of making cotton yarns.

Cotton has had a great deal of competition from manufactured fibers in recent years. New treatments and finishes have helped cotton regain popularity. In addition, combinations with manufactured fibers have improved garment performance. For instance, some cotton denim used to make jeans is now washed many times in an ammonia solution which makes it very soft. Shrinkage of cotton denim has been controlled so the jeans you buy will not shrink as much.

Flax. Flax is the fiber used to make *linen*. It was probably the first cellulosic fiber used for making fabric. The Egyptians grew fields of flax along the Nile River 4000 years ago and made it into fine cloth. Pieces of linen have been found in the tombs of the Pharaohs. Egyptian mummies, wrapped in linen, are still seen in museums. Today, Belgium, Ireland, and New Zealand produce most of the linen.

COTTON: FIBER TO YARN



18-15 Steps in cotton production.

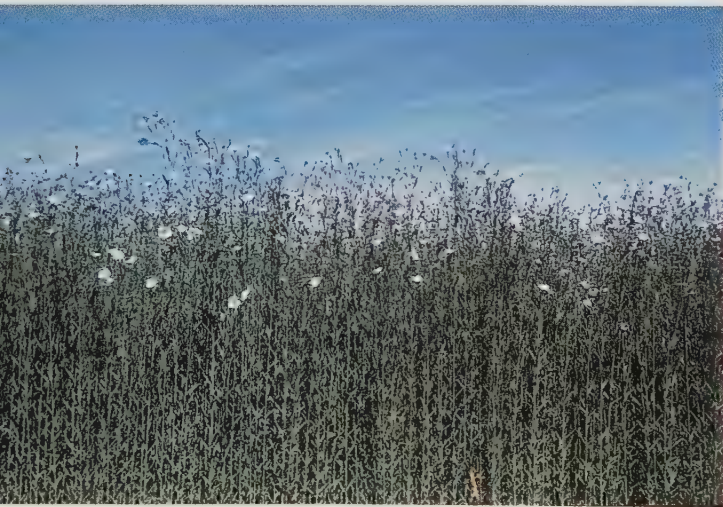


INTERNATIONAL LINEN PROMOTION

18-16 Linen fabric has a soft luster. Towels, tableclothes and some personal items are often called "linens."

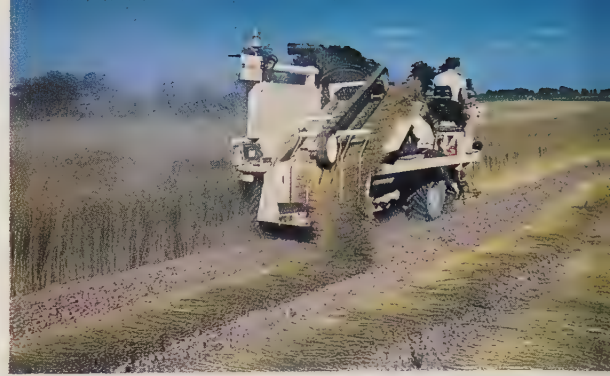
Linen is used for tablecloths, kitchen towels, handkerchiefs, draperies, upholstery, and clothing, 18-16. It is known for its strength, coolness, and luster. It is often an expensive fabric. This is because it is imported and because making linen from flax takes much time and effort. Some of the work is still done by hand, 18-17.

When flax plants are ready for harvest,



INTERNATIONAL LINEN PROMOTION

18-17 A field of flax in bloom in Ireland that will be harvested and made into linen fabric and clothing.



INTERNATIONAL LINEN PROMOTION

18-18 Mature flax stalks are about three feet tall. Machines pull them from the ground and lay them in rows.

machines pull them from the ground, 18-18. They are never cut as fibers will discolor. Threshing machines remove the seeds, and the flax stalks are allowed to dry. Then they are tied into bundles and retted in dew or water. This loosens the outside woody stalk from the flax fibers. The bundles are dried again. See 18-19.



INTERNATIONAL LINEN PROMOTION

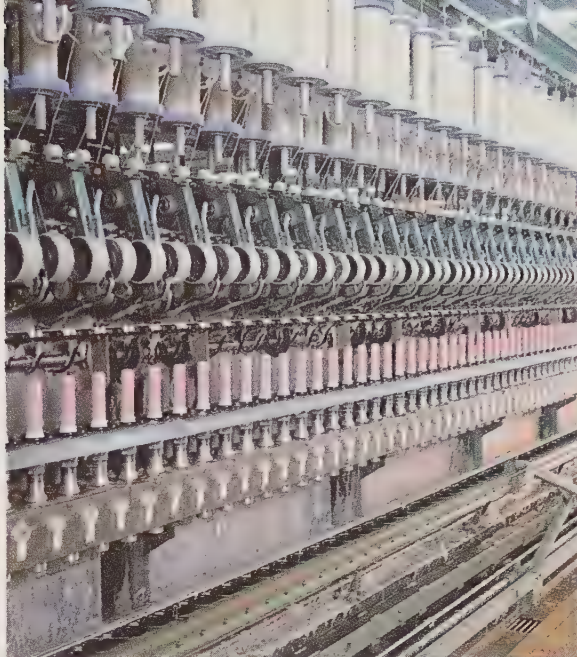
18-19 After drying, the twisted bundles are scutched, or crushed. The soft, flax fibers inside are separated from the woody outside stalk.

When the flax stalks are dry, they are retied and taken to be *scutched*. In this step, rollers crush the stalks. This completes the separation of the soft flax fibers from the harsh straw.

Next, the fibers are *hackled* or combed. This process separates the short fibers called “tow” from the long fibers, called “line.” Then they pass through a drawing machine where they are combined into a continuous wide ribbon called a sliver. The drawing process is repeated until all the fibers are parallel in small, rope-like strands, 18-20.

Finally, the linen yarns are spun. The method used depends on the kind of fabric that will be made. See 18-21.

Flax fibers are the strongest of the natural fibers. They are also smooth, durable, and lustrous. Since flax fibers are longer than cotton ones, there are fewer fiber ends in a yarn. There is less lint from fiber ends on the fabric surface, 18-22. This means that linen does not attract or hold



INTERNATIONAL LINEN PROMOTION

18-21 After the fibers have been drawn into a sliver, the linen yarn is spun.



INTERNATIONAL LINEN PROMOTION

18-22 Printing linen fabric. The printing process can be computer programmed.



INTERNATIONAL LINEN PROMOTION

18-20 These flax fibers have been hackled, or combed and tightly drawn into slivers.

soil as cotton does. For this reason, linen is a good choice for draperies, upholstery, and clothing.

Linen has an added plus as a fabric for summer clothes since flax is the coolest fiber you can wear. This is because it absorbs body heat, carries it away from the body, and dries quickly.

Linen wrinkles easily. This problem can be solved by a special finish, but the finish reduces the absorption and coolness of the fabric. You can learn more about linen by looking at the chart in 18-23.

Ramie. Ramie is often called "China grass." It comes from a shrubby plant often grown in China and India. It has rod-like stems and heart-shaped leaves. The fibers

are obtained from the stems of the plants, similar to the harvesting of flax for linen.

The ramie fiber is strong, lustrous, absorbs moisture, and dries quickly. In the past, it was mainly used for making ropes, canvas, and fire hoses because of its strength. Today, combined with other natural fibers and manufactured fibers, ramie is gaining popularity for use in clothing. Ramie adds strength to fabrics such as cotton, rayon, and silk, while these fibers give a soft feel to the fabric.

Care instructions for items made of ramie vary. Some must be dry-cleaned. Some can be washed by machine, while others must be washed by hand. The care labels should be checked. See the chart in 18-24 for more information about ramie.

Jute. Jute also comes from a plant. It is a rough, coarse fiber and has a natural

FIBER

Flax.

SOURCE

Flax plant.

ADVANTAGES

- Strongest of natural fibers.
- Comfortable. Absorbs moisture from skin and dries quickly.
- Smooth, lustrous.
- Stands high temperatures, will not scorch easily when ironed.
- Durable. Stands frequent laundering.
- Lint-free. Used for dish towels, cloth for medical profession.

DISADVANTAGES

- Expensive if of good quality.
- Wrinkles easily unless treated.
- Creases hard to remove.
- Shines if ironed on right side.
- Mildews, rots, and has color loss.

END USES

- Clothing — Suits, dresses, handkerchiefs.
- Home Furnishings — Draperies, kitchen towels, tablecloths, upholstery.

FIBER

Ramie.

SOURCE

China grass.

ADVANTAGES

- Strong.
- Lustrous.
- Dries quickly.
- Durable.
- Absorbs moisture.

DISADVANTAGES

- Wrinkles easily.
- Stiff and wire-like.
- Coarse.

END USES

- Cords, twine, rope, canvas, fire hoses.
- Home Furnishings — combined with other fibers for draperies, upholstery fabrics.
- Combined with other natural and manufactured fibers in wearing apparel.

18-23 Facts about flax.

18-24 Facts about ramie.

odor. The main use of jute is for making burlap bags, and decorative household items and accessories. Bulletin boards and lampshades are often covered with burlap fabric.

Jute is not a strong fiber, and the fiber weakens with age. It wrinkles easily and produces lint. Jute takes dyes readily and is quite inexpensive.

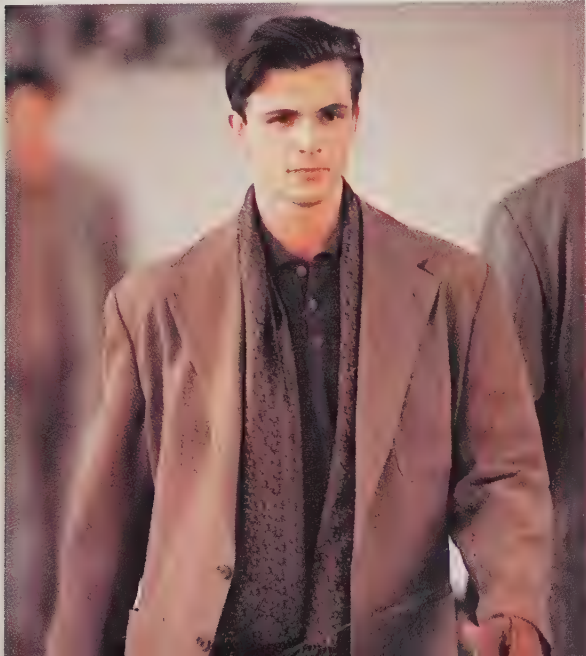
Protein fibers

Protein fibers come from animal sources. Wool and silk are the major protein fibers. Others are called *specialty hair fibers*. These include mohair and cashmere fibers from the goat family; camel, llama, alpaca, vicuña, and guanaco hairs of the camel family; and angora hair from the rabbit family. Supplies of the specialty hair fibers are smaller than wool supplies, so they are more expensive.

Wool. Crude wool fabrics have been found in ruins of the Stone Age. Even then,

18-25 This man's blazer, slacks, and scarf are made of wool. They are lightweight and wrinkle resistant.

INTERNATIONAL WOOL SECRETARIAT



people knew that the fleece of sheep was softer and warmer than the skins of other animals. Sheep were the first animals to be domesticated.

Today, Australia ranks first in wool production. The United States ranks sixth.

Wool is the warmest fiber. It is a natural insulator, so it protects your body from changes in temperature. The outfit in 18-25 is all wool.

A fabric made of wool is warm, but lightweight. It can absorb moisture without making you feel wet. These factors make it a comfortable fabric for clothes. Other facts about wool are listed in 18-26.

FIBER

Wool.

SOURCE

Sheep fleece.

ADVANTAGES

- Warmest of all fibers (warm, but lightweight).
- Highly absorbent (absorbs moisture without feeling wet).
- Wrinkle resistant.
- Holds and regains shape.
- Creases well.
- Durable.
- Combines with other fibers successfully.

DISADVANTAGES

- Expensive.
- Will shrink and mat when moisture and heat are applied.
- Special care is needed; most fabrics must be dry-cleaned.
- Attracts moths and carpet beetles.
- Absorbs odors.
- Burns easily; press at low temperature.

END USES

- Clothing — Outerwear, sweaters, suits, skirts, athletic socks.
- Home Furnishings — Rugs, carpets, upholstery, blankets.

18-26 Facts about wool.

The first step to produce wool is to *shear* the sheep, 18-27. If possible, the *fleece* is removed in one piece. The quality varies from different places on the sheep. The best comes from the shoulders and sides. The poorest is from the lower legs. Quality also depends on the health of the sheep and the climate. The fleece is stored in sacks, then sent to the mills. See 18-28.

At the wool mill, many steps are needed to produce yarn. First, the fibers are *graded* and *sorted* according to quality. To remove the natural oil, they are *scoured* or washed in detergent or soap. The oil taken out is *lanolin*. It is refined and used in cosmetics, shampoos, and ointments.

Wool is carded to straighten fibers. After carding, the longer fibers are combed. The carded sliver is made into *woolen* yarns. Yarns made from combed sliver (called *top*, in the case of wool) are called *worsted* yarns.

See 18-29 to compare woolen and worsted yarns. The fibers in woolen yarns lie in all directions, giving a twisted, loose look. They have a somewhat fuzzy surface. These yarns are used for making flannels, tweeds, and soft fleece fabrics.

The longer fibers in worsted yarns are tightly twisted. This produces a closely woven, hard-surfaced fabric. Worsted fabrics are lighter in weight and smoother than woolen fabrics. Gabardine, challis, and sharkskin are examples of worsted fabrics.

Wool is often combined with other fibers, especially manufactured ones. The characteristics of the two differ. When they are used together, we can have the best of each. For instance, a coat of wool and manufactured fiber will be warm but less costly than an all-wool one.



AMERICAN WOOL COUNCIL

18-27 Once a year, fleece is taken from the sheep by an expert shearer, using electric clippers.



INTERNATIONAL WOOL SECRETARIAT

18-28 Carts of scoured wool are ready for carding which will start to straighten the fibers.

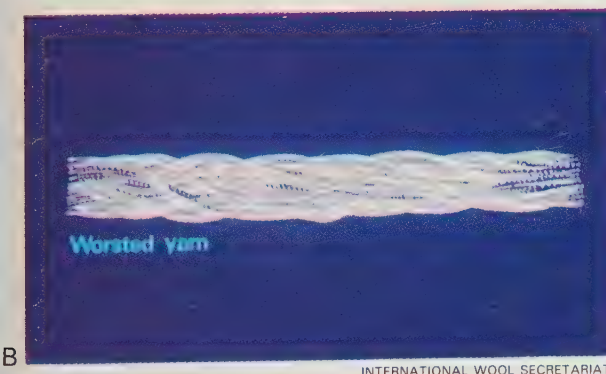
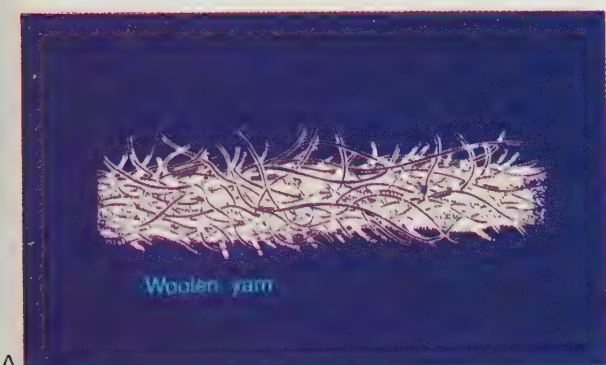
Consumers cannot know how much and what type of wool is in a fabric simply by looking at it. Wool can be recycled. When this is done, the quality can be lowered. A low price may be more important than appearance or durability. The consumer must make this decision.

To protect consumers and manufacturers, the *Wool Products Labeling Act* was passed in 1939. The law was passed to overcome confusion or misinformation about the wool used in products. Any textile product that contains some wool must list the percentage and type of wool present. The country of origin must also be listed. The term *wool* means that the fiber

has never been used before for a fabric or garment. Some manufacturers might call this *virgin wool*. *Recycled wool* can be from two sources. It might be from a product that was made but never used (reprocessed), or made from wool that was previously used (reused).

Products made of 100 percent wool use the Woolmark trademark. Products that include wool and other fibers use the Woolblend mark, 18-30.

A small amount of recycled wool mixed with other fibers does not mean the product is inferior. You must decide how you will be using the product. It will meet your particular needs.



INTERNATIONAL WOOL SECRETARIAT

18-29 A—Woolen yarns are made from carded sliver. B—Worsted yarns are made from combed sliver called “top.”



A

PURE WOOL

THE WOOL BUREAU, INC.



B

WOOLBLEND MARK

THE WOOL BUREAU, INC.

18-30 A—The Woolmark label is used on fabrics made of pure wool. B—The Woolblend Mark is used on fabrics made premoninantly of wool.

Silk. According to legend, silk was discovered by a young Chinese Empress named Si Ling-Shi. One day, as she sat in the garden drinking tea, she noticed a fat, white worm on a leaf of a mulberry tree. It moved its head back and forth while spraying a fine white thread from two tiny holes below its mouth. As she watched, she saw the worm wrap the thread around itself forming a cocoon. She caught it and dropped it into her cup of hot tea. When it softened, she saw the fiber floating in the tea. As she lifted it, the cocoon unwound into a long thread.

There are many versions of this story. No one knows which one is correct. From records we do know that for about 2000 years after the discovery of the silkworm, only the Chinese knew how to make silk. They named the lustrous cloth "Si" for their Empress. Si is still the Chinese name for silk. Silk was in such demand and so costly that it was known throughout the world as "cloth of kings."

Eventually, the silkworm eggs were smuggled to other countries of the world, and *sericulture* (silkworm cultivation) flourished. Japan is the leading producer of raw silk today. China, Italy, France, and India also produce large amounts of silk. The United States does not produce raw silk because of the high cost of labor. But it is the world's largest manufacturer of silk products.

The steps in silk production are shown in 18-31. A silk moth lays from 200 to 500 eggs early in the summer. As soon as the tiny white worms hatch, they begin eating mulberry leaves. They eat their own weight in leaves each day. After about five weeks, they have grown to about 3 inches (7.6 cm) long and 1/2 inch (1.3 cm) thick.

At this time, it stops eating and begins to spin its cocoon. First, it spins the outer covering of the cocoon. Then it begins to wind the silk strand around its body. The silkworm is soon out of sight.

If left undisturbed, the worm will turn into a tiny moth and force its way out of its cocoon in two or three weeks. Since this would break and ruin the silk thread, it is killed by heat before this can happen.

The cocoon is unwound either by hand or by machine. The thread from each cocoon is about 1000 feet (305 m) long. A few threads are put together and wound on a reel. Later, the silk from these reels is twisted tightly into skeins, tied in bundles, and baled. It is then ready for the manufacturers of silk cloth.

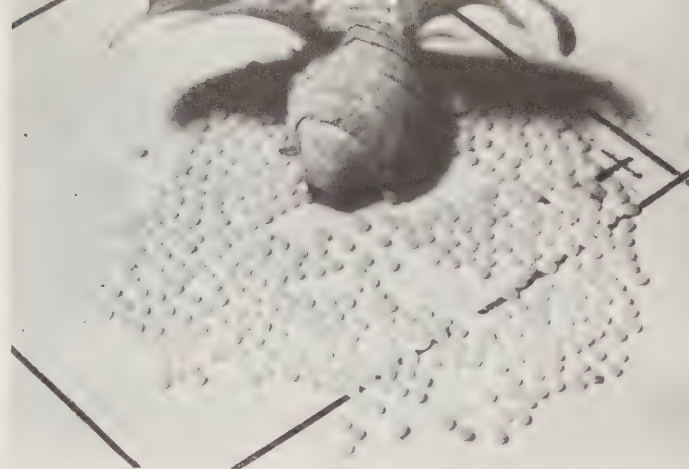
Silk is covered by a natural gum which must be removed by washing. This is done so that dyes will give brilliant, uniform colors. The washing process makes some yarns very thin and lightweight. Salts from tin, lead, or iron can be added to make the fabrics from these yarns heavier. This fabric is called *weighted silk*. One way to tell if silk is weighted is to shake the fabric and see if it rustles. Too much weighting weakens the silk.

Short threads from broken cocoons are also used. They are spun in much the same way as cotton fibers. This *spun silk* is used in making rough-textured fabrics. Spun silk is not as strong or lustrous as *reeled silk*.

Silk is one of the strongest fibers. A strand of silk is two-thirds as strong as an iron wire of equal size. It is very elastic and so smooth that dirt does not cling to it. Silk is washable, but the dyes used often are not. Most care labels advise dry-cleaning garments made of silk. Other silk facts are listed in 18-32.



(A) Some moths are allowed to live and to come out of their cocoons.

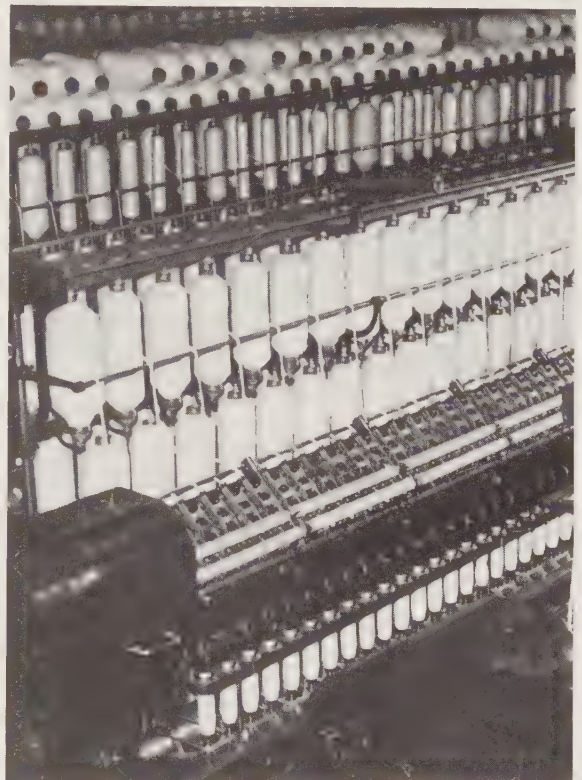


(B) These moths lay eggs from which silkworms will hatch.



(C) Silkworms grow by eating mulberry leaves.

(D) Full-grown silkworms find an empty "box" and begin to spin their cocoons.



JAPAN SILK ASSOCIATION, JAPAN NATIONAL TOURIST ORGANIZATION

(E) Threads from four or five cocoons are wound together on a reel. Later, they can be either wound onto cones as shown here, or twisted into skeins, tied into bundles, and baled. The silk yarns are sent to cloth manufacturers.

18-31 Silk production.

FIBER

Silk.

SOURCE

Cocoon of the silkworm.

ADVANTAGES

- Luxurious look and feel.
- Strong but lightweight.
- Very absorbent.
- Comfortable in all climates.
- Resists wrinkling.
- Soil resistant.
- Combines well with other fibers.

DISADVANTAGES

- Usually requires dry cleaning.
- Yellows with age.
- Weakened by long exposure to sunlight, detergents, and perspiration.
- Attacked by insects such as silverfish.
- Spotted by water unless specially treated.
- Requires low temperature for pressing.
- Expensive.

END USES

- Clothing — Wedding dresses, evening gowns, blouses, scarves, neckties, lingerie.
- Home Furnishings — Lampshades, pillow cushions, wall hangings, draperies, upholstery.

18-32 Facts about silk.

Mineral fiber

Asbestos is a white or light gray mineral fiber. It is found in veins (strips) in certain rocks. Asbestos fibers are about 1/2 inch (1.3 cm) long. Since asbestos fibers are so short, straight, and smooth, they are difficult to spin into yarn.

Because asbestos does not burn, it has been used in textiles for industrial purposes. These include protective clothing, ironing board covers, upholstery fabrics, and insulation and ceiling tiles in buildings. However, researchers have found that constant exposure to asbestos may cause health problems. The tiny fibers become airborne, are inhaled, and settle in the lungs. This

could cause serious illness or death. Today, nonflammable manufactured fibers such as novoloid or glass are replacing asbestos.

MANUFACTURED FIBERS

Manufactured fibers surround you. They are in your clothes, on your furniture, at your school, and in your car. They can be as small as a spider's web or as large as the ropes that moor an ocean vessel.

Rayon was the first commercially produced fiber. It was followed by acetate and triacetate. These fibers are made from cellulose, the fibrous substance in plant life.

Most other manufactured fibers are made by combining raw materials such as nitrogen, oxygen, hydrogen, and carbon. See 18-33 for a list of the generic names of some manufactured fibers.

Manufacturing fibers

The raw materials and chemicals used to make manufactured fibers can vary. They all go through the same basic steps before they become fibers:

1. The solid raw material is changed to a liquid.
2. The liquid is extruded, (forced or pushed) through a spinneret.
3. It hardens in the form of a filament.

In step one, the raw material becomes a thick liquid (like honey). Softwood trees are the most common source for rayon, acetate, and triacetate. The wood is cut into small wood chips. These are dissolved by chemicals to form the thick liquid.

The other manufactured fibers begin as a solid mass of chemicals which is chopped into small pieces. These are either melted or dissolved by chemicals to form the liquid.

Acetate	Metallic	Rayon
Acrylic	Modacrylic	Rubber
Anidex*	Novoloid	Saran
Aramid	Nylon	Spandex
Azlon*	Nytril*	Triacetate*
Glass	Olefin	Vinal*
Lastrile*	Polyester	Vinyon

* Not currently produced in the United States.

18-33 Manufactured fibers.

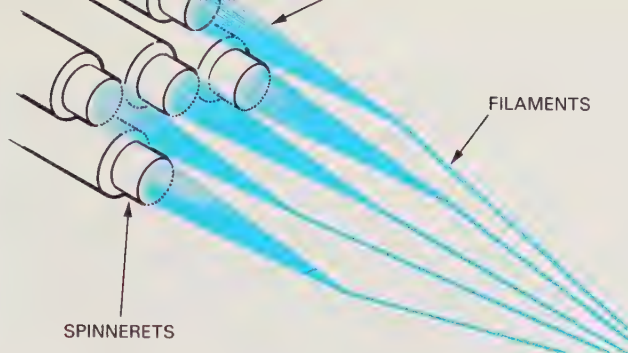
The second step is to extrude the liquid through a spinneret. A *spinneret* is a small nozzle with many tiny holes, as shown in 18-34. As the thick liquid is extruded (forced) through the spinneret, each tiny hole forms one fiber. Several fibers join to make a filament, 18-35.

A *filament* is a continuous strand of fibers. Any manufactured fiber can be made in filament form. Silk is the only natural fiber that is a filament. Other natural fibers are short, *staple fibers*. Manufactured filaments can be cut to make staple fibers.

In the third step, the filament is hardened. Some filaments pass from the spin-



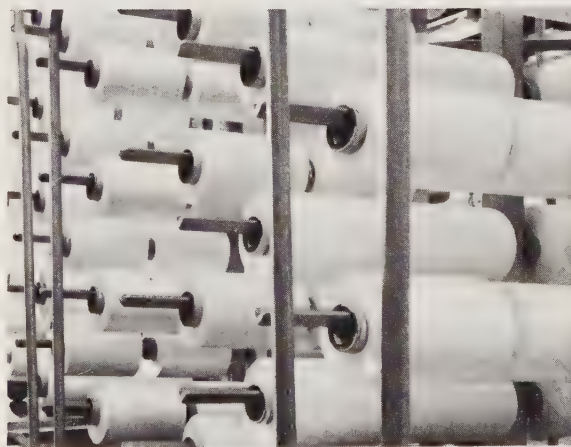
18-34 The metal spinneret has very tiny holes. Thick liquid solutions are pushed through the holes to form fibers.



18-35 Fibers formed by the holes of the spinneret combine to form a filament.

neret directly into a chemical bath where they become solid (*wet spinning*). Others harden after the chemical that was used to change it to liquid has evaporated in warm air (*dry spinning*). Some filaments harden as soon as they come in contact with cool air (*melt spinning*).

The next step varies, depending upon the type of yarn that will be made. To make filament yarns, a few filaments are twisted together into yarns. Then the yarns are wound onto spools, as in 18-36. To make



E. I. DU PONT DE NEMOURS & CO., INC.

18-36 These spools of polyester will be shipped to a mill where they will be used in making fabrics.

staple yarns, filaments are cut into short lengths and later spun into yarns, 18-37.

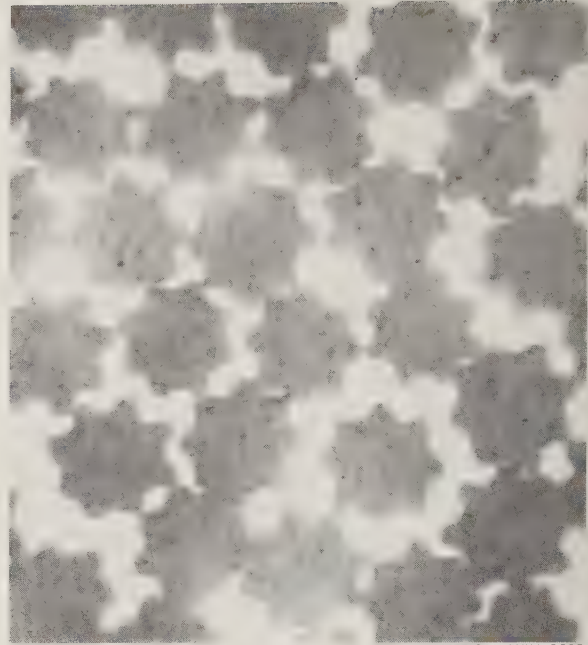
Fiber modifications

Two factors affect the properties of manufactured fibers. One is the chemicals used to make the fiber. This factor remains fairly constant. The other is the way the fiber is treated during production.

Before, during, and after the three basic production steps, there are countless ways to alter the fiber. The cross-sectional shape



18-37 This fluffy rope of manufactured fibers will be cut into short lengths and then spun into yarns.



AMERICAN ENKA CORP.

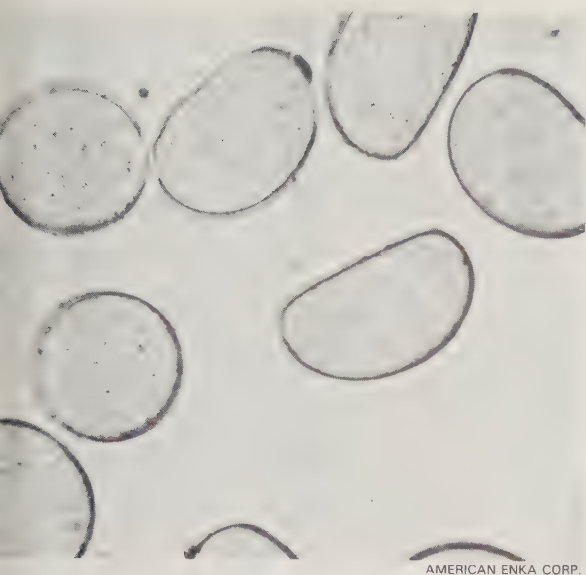
18-38 This cross section of polyester fibers is magnified 650 times. The dark spots are signs of an added pigment used to reduce luster.

can be changed, as shown in 18-38 through 18-40. The fiber can be thick or thin. The color, luster, wrinkle-resistance, absorption, strength, and pliability can all be varied during the fiber-making process.

Fibers can be blended or combined with other manufactured or natural fibers.

Yarns can be made from a single filament or from many filaments twisted together. They can be twisted, crimped, coiled, or looped to vary the appearance and stretchability. This is called *texturizing*. See 18-41.

The list of fiber modifications grows longer each year. Scientists in textile labs continue to find new and better fibers. If you think that everything possible is being done today, just wait until you see tomorrow!



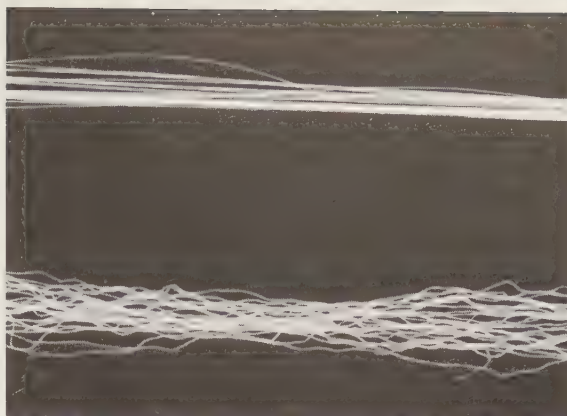
AMERICAN ENKA CORP.

18-39 This cross-sectional view of semi-dull nylon fibers is magnified 390 times.



AMERICAN ENKA CORP.

18-40 These nylon fibers have a bright luster. They are magnified 1500 times.



AMERICAN ENKA CORP.

18-41 Above: Polyester filament yarn before texturing. Below: Same yarn after being textured for added bulk and stretchability.

Fiber characteristics

Although manufactured fibers can be modified in many ways, each kind of fiber has some typical characteristics.

Rayon. Rayon is much like cotton. It is soft, comfortable, absorbent, inexpensive, and versatile. It is easy to dye, and it drapes well. A special treatment increases its strength and resistance to shrinking and wrinkling.

Rayon is used for almost all kinds of clothing. See 18-42. Lingerie, shirts, blouses, dresses, slacks, coats, and work clothes are some of the common uses. In the home, rayon is used for bedding, rugs, curtains, draperies, upholstery, and tablecloths. It is also used in many non-woven, industrial, and medical products.

Care instructions for rayon garments vary. Some require dry cleaning. Some should be washed by hand. Some can be washed and bleached like cotton. Check the care labels.

Acetate. Acetate looks and feels luxurious. It is crisp and drapes (handles) well.



SPIEGEL, INC.

18-42 This pretty outfit might be made from fabric that contains rayon. Rayon fibers accept dyes well, therefore, bright color fabrics can be produced.

It can be dyed in a wide range of colors. With special dyes, acetate will not fade or change color. It is resistant to moths and mildew. It is inexpensive, but it is weak.

Clothing uses of acetate include neckties, scarves, shirts, blouses, dresses, evening gowns, lingerie, and garment linings, 18-43. In the home, it is used for draperies, upholstery, and quilted products such as comforters and mattress pads. It is also used in cigarette filters.

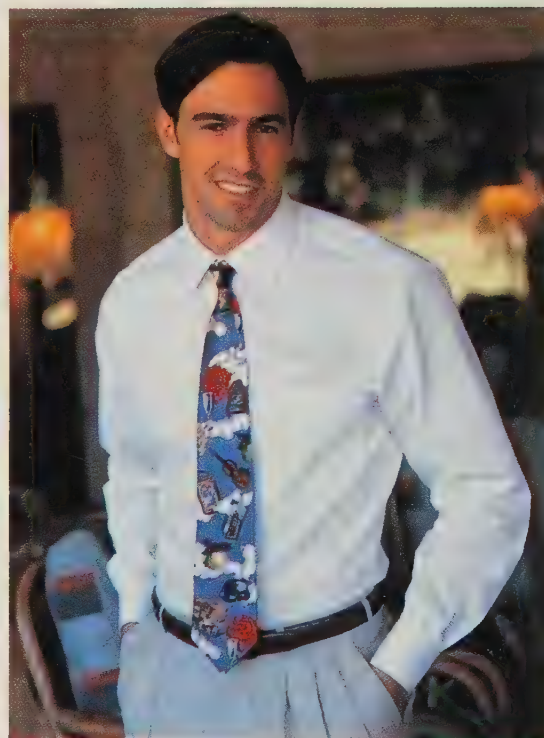
Most acetate garments should be dry-cleaned. (Check the care labels.) If you do launder them at home, handle them with care. Use warm water with mild suds. Do not twist the garment. Press while slightly damp on the wrong side of the fabric. Use

a cool iron. Acetate will melt under high heat.

Triacetate. Triacetate is similar to acetate in appearance. It can be very lustrous. But it is more resistant to sunlight, wrinkles, and shrinkage. Permanent creases and pleats can be made in triacetate fabrics using a special heat treatment.

Triacetate is often used in lightweight knits. Garments of triacetate include dresses, shirts, blouses, and clothes that require permanent pleats.

Caring for triacetate garments is easy. Most can be machine washed and dried. (Pleated garments should be washed by hand.) If any ironing is needed, a low temperature may be used.



THE FASHION ASSOCIATION

18-43 Neckties are sometimes made of acetate.



LEVI STRAUSS & CO.

18-44 Nylon ski wear is lightweight, durable, and comfortable.

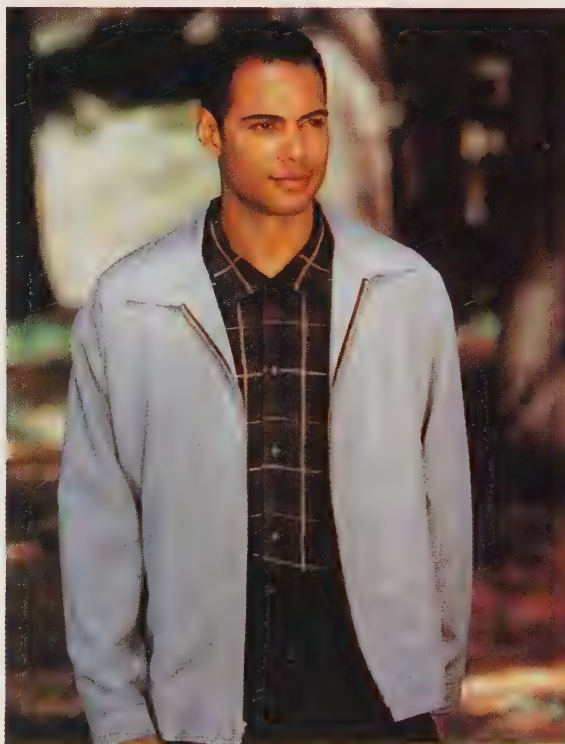
Nylon. Nylon is very strong and durable. It is elastic, but keeps its shape. It is lightweight, lustrous, and easy to dye. Because nylon is low in absorbency, static electricity is a problem. Pilling may also be a problem.

Many garments are made of nylon, 18-44. Some are hosiery, lingerie, casual tops, dresses, raincoats, and ski wear. Carpets, draperies, and upholstery are home uses. Nylon has many other uses such as thread, seat belts, racket strings, ropes, tents, and tire cord.

Most nylon garments can be machine washed and dried at low temperatures. Use warm water and a fabric softener. Remove garments from the dryer as soon as it stops.

Wash light-colored nylon items alone. They pick up colors from darker items if washed together.

Polyester. Polyester is very resistant to wrinkles, stretching, shrinking, bleach, sunlight, moths, and mildew, 18-45. It is strong and easy to dye. With a special heat treatment, it will hold permanent creases. Polyester is versatile. Almost any texture and appearance can be achieved in polyester fabrics. It also has disadvantages. Pilling may be a problem. Oily stains are difficult to remove. Absorption is quite low which makes these fabrics uncomfortable in hot, humid weather. Static electricity is also a problem because of low absorbency.



THE FASHION ASSOCIATION

18-45 This jacket is made from a cotton-polyester blend. The polyester helps it resist wrinkles.

Polyester can be used alone or blended with other fibers (especially cotton) in clothing. It is used for shirts, blouses, children's wear, dresses, insulated garments, lingerie, permanent press garments, slacks, and suits. In the home, it is used for carpets, curtains, and sheets. Thread, fiberfill, fire hose, ropes, tire cord, and sails are other uses.

Most polyester items can be machine washed and dried. Use warm water and a fabric softener. Remove promptly from the dryer.

Olefin. Olefin is the lightest fiber made. It floats on water and has very low absorption. It resists wrinkles, soil, water-based stains, mildew, and insects. Olefin is a strong, durable fiber and it is inexpensive. The disadvantages are that it is difficult to dye and it melts at fairly low temperatures.

Knitted sport shirts and sweaters are made of olefin. In the future, more garments will be made of olefin. Indoor-outdoor carpeting is the largest single use of the fiber. Carpet backing, slip-covers, and upholstery are other home uses, 18-46. Industry uses olefin for filters, sewing thread, envelopes, and rope.

Machine wash olefin items in lukewarm water. Use a fabric softener. If you machine dry, use a very low setting and remove items promptly. Most carpet stains can be removed by blotting with an absorbent tissue.

Acrylic. Acrylic is often used as a replacement for wool. It is soft, warm, and lightweight. It keeps its shape well. It resists sunlight, chemicals, and wrinkles. It can be treated to keep a permanent crease. Pilling and static electricity may be problems.



SAUDER WOODWORKING

18-46. Carpeting and upholstery fabrics made of olefin are very durable. Olefin fabric resists soil and many stains. Upholstery made of olefin is a smart choice for a family room that takes a lot of wear.



HAAN CRAFTS

18-47 Acrylic sweat outfits are warm and keep their shape when worn for casual wear or athletics.

Many sweaters are made of acrylic. Other uses are dresses, infant wear, slacks, ski or athletic wear, and socks, 18-47. Blankets, carpets, draperies, and upholstery are some home uses. It is also used in hand knitting yarns.

Wash delicate items by hand in warm water. Gently squeeze out water. Smooth out wrinkles, and hang to dry. (Lay sweaters flat to dry.) If the care label suggests machine washing, use warm water and a fabric softener. Machine dry at a low setting, and remove promptly.

Modacrylic. Modacrylic is flame resistant. It also resists shrinkage and chemicals. It is soft, warm, and easy to dye. Fibers can be molded and keep their shape. One problem



J.C. PENNEY CO., INC.

18-48 The "fur" on this coat is made of modacrylic.

is that the fiber softens at low temperatures.

Modacrylic is the fiber used to make fake fur, 18-48. It is also used for deep-pile coats and trims and for wigs. In the home, it is used in blankets, carpets, flame-resistant draperies, and wall coverings. Other uses are filters, paint rollers, and stuffed toys.

Fur-like items should be dry-cleaned. Check the care label. If a modacrylic item can be washed, use warm water, mild suds, and a fabric softener. Use a very low setting on the dryer, and remove promptly.

Rubber. Rubber is defined as a manufactured fiber in which the fiber-forming substance is composed of natural or synthetic rubber. Natural rubber is made from a thick liquid, called *latex*, that comes from rubber trees. Rubber is used to make items such as waterproof coats, boots, and gloves. It is also used in some elastic waistbands and as a backing for rugs.

Be sure to check care labels in garments containing rubber. Body oils, perspiration, and exposure to light will weaken rubber. It is most often laundered and dried at low temperatures. Often, items made of rubber should be laundered instead of dry-cleaned. The dry-cleaning chemicals may cause damage.

Spandex. Spandex is elastic like rubber, but is made entirely from chemicals. Spandex has good stretchability and will go back into shape easily. Since spandex is resistant to sunlight, oil, perspiration, and abrasion, it is better than rubber for most uses. Many former uses of rubber in clothing have been replaced by spandex. Spandex is used for both woven and knitted fabrics. Some uses are in swimsuits, underwear, ski pants, and many other articles where stretch is needed, 18-49.

High temperatures in washing machines and dryers can cause spandex to lose some of its stretching power, and it may take on a gray tint. Bleach and the chlorine in swimming pools may also damage it. That is why it is important to rinse a swimsuit thoroughly as soon as possible after swimming in a chlorine pool.



LANDS' END

18-49 Because of its stretchability, spandex is used with other fibers for tights.

to know

acetate	olefin
acrylic	polyester
asbestos	protein fibers
cellulosic fibers	ramie
cotton	rayon
fabrics	rubber
filament	silk
flax	spandex
jute	staple fibers
manufactured fibers	triacetate
modacrylic	wool
natural fibers	yarn
nylon	

to review

1. Explain the relationship among fibers, yarns, and fabrics.
2. List the three major, natural cellulosic fibers used for clothing.
3. List two advantages of cotton.
4. Which fiber is used to make linen?
 - a. Flax.
 - b. Rayon.
 - c. Cotton.
 - d. Silk.
5. _____ is the coolest fiber; _____ is the warmest.
6. The major natural protein fibers are _____ and _____.
7. Name the oil obtained from the processing of wool and two of its uses.
8. Why is wool sometimes reprocessed or reused? Explain the difference.
9. Why is silk not produced in the United States?
10. Which is stronger and more lustrous?
 - a. Spun silk.
 - b. Reeled silk.
11. Name the natural mineral fiber and its major advantage.

12. Which one of these manufactured fibers is not made from cellulose?

- a. Nylon.
- b. Rayon.
- c. Triacetate.
- d. Acetate.

13. List the three basic steps in manufacturing fibers.

14. What two factors influence the properties of manufactured fibers?

15. List one characteristic and one use for each of the 10 major manufactured fibers.

to do

1. Make a bulletin board display that shows the steps in making yarns from either natural or manufactured fibers.

2. Collect samples of fabrics made from various fibers. Identify and compare.

3. Find pictures of end uses for the different fibers. Display them on a bulletin board.

4. Visit a fabric store and compare prices of fabrics made from different fibers.

5. Hold a piece of cotton fabric in one hand and a piece of polyester fabric in the other. Squeeze both for five seconds, then compare. Which is more wrinkle-resistant?

6. Place a tablespoon of water on each of two plates. Place a linen sample on one plate and a nylon sample on the other. Which absorbed more water?

7. Unravel some manufactured fabrics to see if the fibers have been texturized.

8. Look at various natural and manufactured fibers and yarns under a microscope. Identify and compare them.

9. Cut two identical samples of wool fabric. Record the measurement. Wash one sample in cold water and the other one in hot water. Dry the samples by squeezing in a towel. Measure each again. Was there a change? What characteristic of wool caused this difference?



From Yarn to Fabric

After studying this chapter you will be able to

- explain how fibers are combined to make yarns.
- discuss how yarns vary in size, strength, and texture.
- identify and describe different ways in which yarn is made into fabrics through weaving, knitting, or other processes.
- describe various ways color can be added to fabrics.
- explain how and why different finishes are used on fabrics.

Before a yarn becomes part of a finished fabric, it goes through many steps. The yarn itself can vary in size, strength, and texture. It can be made into fabric in several different ways.

The appearance and performance of a textile product depends on its fiber content, type of yarn, fabric construction, added color, and finishes. These factors can be varied to make millions of different fabrics.

The fiber content was discussed in Chapter 18. The main choice is between natural and manufactured fibers. Within these two groups are many fibers. Each one has advantages and disadvantages.

YARNS

Fibers are combined to make yarns. Yarns are combined to make fabrics. The type of yarn that is used has a big effect on the finished product.

Spun yarns are made from short, staple fibers. They have a rough surface. Some of the tiny fiber ends stick out, making it look fuzzy. All natural fibers except silk are made into spun yarns. All manufactured

fibers can be cut to staple length and used for spun yarns.

Have you ever had a sweater that pilled? That sweater was made of spun yarns. *Pills* are tiny balls of fiber that appear in places of wear such as elbows and cuffs. They can be cut off or smoothed with an emery board or fine sandpaper. When you wear the sweater again, more pills may form. Some new fibers do not pill.

Monofilament yarns are made from a single filament. The clear, plastic-like thread that is used to hem some ready-to-wear garments is a monofilament yarn. These yarns are also used in hosiery.

Multifilament yarns are made from a group of filaments. Silk and all manufactured fibers can be made into multifilament yarns for most kinds of clothing.

Twist in yarns

The amount of twist added to a yarn varies. *Twist* is needed to hold the fibers or filaments together. Twist is also added to increase the strength of the yarn.

Very low twist yarns are often used for multifilament yarns. The fibers used in this kind of yarn are strong, so the twist is used only to hold the filaments together.

Low twist, spun yarns are “fluffy.” They are used to make bulky, soft, and fuzzy fabrics. They are fairly weak and form pills easily.

Average twist is the most common twist for yarns made of staple fibers, 19-1.

High twist yarns are hard and compact. These yarns are less common today. Yarns with high twist are used in fabrics called voile and crepe.



19-1 Spinning machines add more twist to yarns, which makes them stronger.

CONE MILLS

Textured yarns

Filament yarns from all manufactured fibers (except rayon and acetate) can be *textured*. This makes the yarns less smooth. They are crimped, looped, or coiled to achieve some properties of the spun yarns. Texturing yarns makes them more absorbent and more comfortable with more bulk and stretch. They have less static buildup. The development of texturing has been a major factor in the widespread acceptance of manufactured fibers.

Single, ply, and cord yarns

The relationship among single, ply, and cord yarns is shown in 19-2.

The product of the first twisting step is a *single yarn*.

A *ply yarn* is made by twisting two or more single yarns together. Each part of the yarn is called a ply. Ply yarns are larger and stronger than single yarns. Home knitting or crocheting is done with ply yarns.

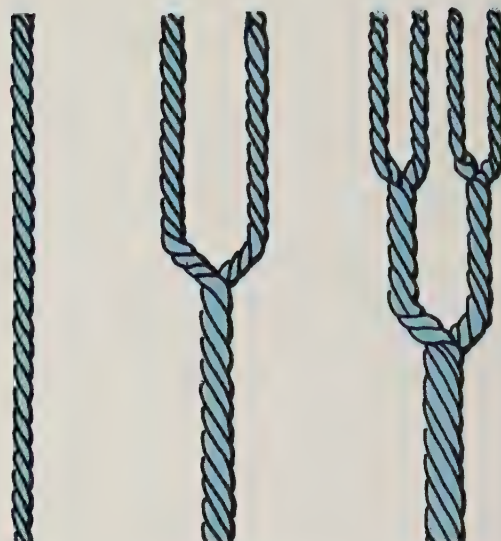
When ply yarns are twisted together, the result is a *cord yarn*. Ropes are often made from cord yarns.

Blends and combinations

Many textiles today have a mixture of natural and manufactured fibers. These are called blends or combinations.

When different staple fibers are spun together into a single yarn, a *blend* results. When two different single yarns are twisted into a ply, a *combination* results.

Blends and combinations are used to obtain fabrics with better performance, better appearance, or lower prices. By adding acrylic to a wool fiber or yarn, the cost can be reduced. Since acrylic neither shrinks nor attracts moths, both of these problems can also be lessened.



SINGLE YARN

TWO-PLY YARN

CORD YARN

19-2 Fibers are first twisted into single yarns. Another twisting step combines single yarns into ply yarns. A third twisting step forms cord yarns.

Many shirts are a blend of 65 percent polyester and 35 percent cotton. The amount of each fiber used is important. This 65-35 blend takes advantage of the good characteristics of both fibers and lessens the effect of the bad characteristics. Cotton feels good next to the body. It is cool and absorbent, and it does not pill. But cotton wrinkles easily and shrinks. Polyester is strong and wrinkle-resistant. It dries quickly and does not shrink. We can enjoy the best of each fiber when they are blended.

FABRICS

The two most common methods of making fabric are weaving and knitting. Other methods are used such as felting and bonding. From only a few construction methods come many different fabrics, 19-3.



INTERNATIONAL LINEN PROMOTION



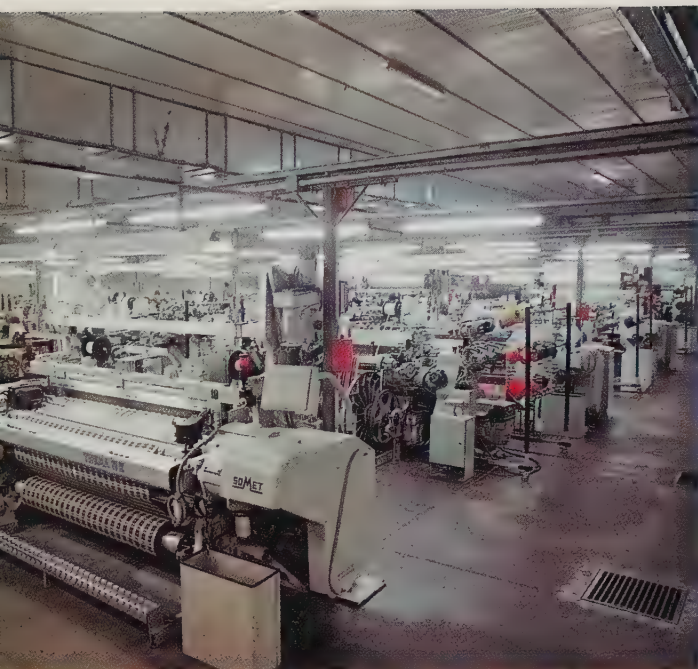
PELLON, DIV. OF FREUDENBERG NONWOVENS

19-3 The variety of fabrics produced by weaving, knitting, felting, and bonding is endless. To make wise clothing decisions, you need to know something about fabrics.

Weaving

Weaving is the process of interlacing yarns at right angles to each other. It is done on machines called *looms*, as in 19-4. Weaving was done by hand for hundreds of years. Your great-grandparents may

have had a loom in their home. A few hand looms are still used. Some are large, but most hand looms used today are small. The products are usually costly, specialty items. An example is the small rugs made by Indians in the Southwest.



SOMET S.p.A., BERGAMO, ITALY

19-4 High-speed looms can weave thousands of yards of fabric in a very short time. To produce plaid fabrics, warp yarns are raised or lowered at changing intervals for filling yarns to be inserted.

Two sets of yarns are used. The lengthwise ones are the *warp yarns*. The crosswise ones are the *filling yarns*. The warp yarns are threaded onto the loom. They must be strong and durable to withstand the strain they bear during the weaving process.

The filling yarns pass over and under the warp yarns. When they reach an edge, they turn back and weave across the warp yarns in the other direction. The turned filling yarns along each side of the woven fabric forms the *selvage*. It is very strong and will not ravel.

The filling yarns are usually weaker than the warp yarns. Therefore, if the fabric has low-twist or "special effect" yarns, they will

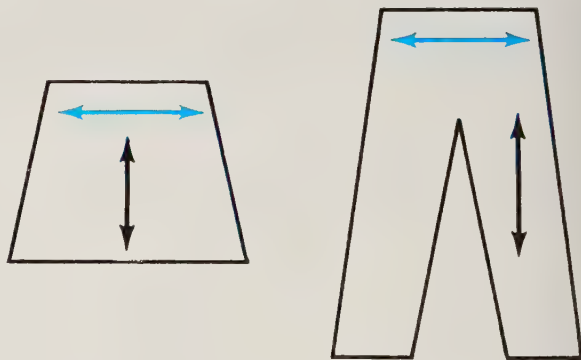
be in the filling.

In the woven fabrics, the filling stretches more than the warp. This is why the grain of fabric is important in clothing. Garments need to stretch more across your body than up and down. So the *crosswise grain* is along the filling. The *lengthwise grain* is along the warp. See 19-5.

Large and complex designs are woven on *Jacquard* looms. See 19-6. The design of the fabric is programmed on a series of punch cards similar to computer cards. The cards control the warp yarns, raising or lowering them to create the woven design.

Damask, brocade, and tapestry fabrics are made on the Jacquard loom. They are used for clothing and home furnishings such as bedspreads and upholstery. Towels with hotel names as the woven design are also made on these looms.

Smaller patterns can be woven into a fabric with a *dobby* attachment. It can be added to a regular loom. A plastic tape is punched with holes. These holes control the warp yarns to produce the design.



19-5 Because filling yarns (blue) stretch more than warp yarns (black), garments are made with the filling yarns going around the body. Warp yarns are used in the lengthwise direction.



SOMET S.p.A., BERGAMO, ITALY

19-6 A Jacquard loom makes it possible to weave intricate patterns. Notice the cards used to program the design

Three basic weaves

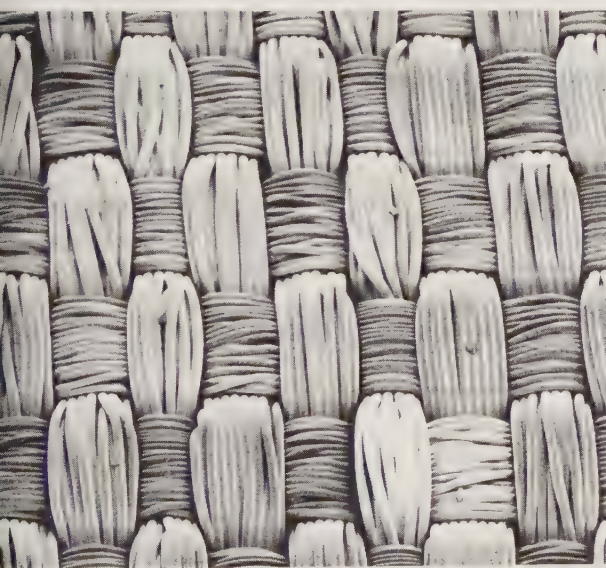
Weaving has been defined as the process of interlacing yarns at right angles to each other. You can create different effects by passing the filling yarns over and under different numbers of warp yarns.

Plain weave. As a child, you may have

made pot holders on a small loom. The “over one, under one” pattern you used is an example of the plain weave. The netting of a tennis racket is also an example of the plain weave. See 19-7.

Generally, plain weave fabrics are strong, durable, and easy to sew. They wrinkle more and absorb less moisture than fabrics of other weaves.

Using large yarns with small ones, textured yarns, or a special finish can change the effect. You can also get a different look by working with more than one yarn at a time. This is called the *basket weave*. It is made by passing two or more filling yarns over and under two or more warp yarns. Plain weave fabrics are listed in 19-8.

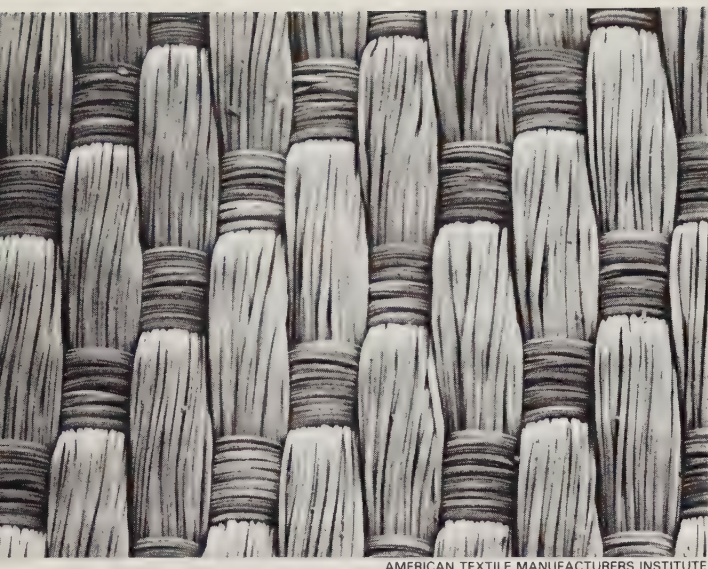


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19-7 The interlacing pattern for plain weave fabrics is over one, under one.

Organdy	Batiste
Gingham	Chambray
Voile	Chiffon
Percalé	Muslin
Taffeta	Broadcloth
Poplin	Faille
Grosgrain	Oxford (basket weave)

19-8 Plain weave fabrics.



19-9 In this example of a twill weave, the filling yarns go over one warp yarn and under two.

Twill weave. The twill weave is shown in 19-9. Twill weave fabrics have a distinct diagonal line or *wale*. It is made when a yarn in one direction *floats* (passes) over two or more yarns in the other direction. Each float begins one yarn over from the last one. The floats can be either filling or warp yarns.

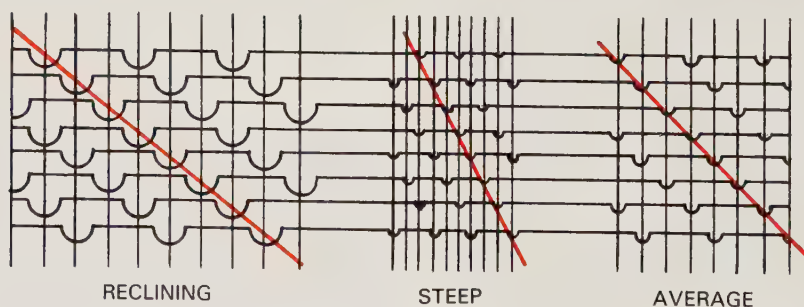
Twill weaves are very durable. Twill weave fabrics resist wrinkles and hide soil. They are less stiff than plain weave fabrics that have the same number of yarns.

There are many ways to vary twill weaves. The floats can be long or short. The angle of the wale can be steep, average, or reclining as shown in 19-10. Large, high-twist, or textured yarns also create different looks. The wale goes “up and right” in wool and wool-like fabrics. It goes “up and left” in cotton and cotton-like fabrics such as denim jeans. When the wale changes direction, a zigzag look appears. This is called a *herringbone twill*. Twill weave fabrics are listed in 19-11.

Satin weave. The satin weave is used to make fabrics with a smooth surface. It is made by floating a yarn from one direction over four or more yarns from the other direction and then under one yarn. Each float begins two yarns over from where the

Serge	Surah
Gabardine	Denim
Herringbone	Flannel

19-11 Twill weave fabrics.



19-10 The angle of the wales in twill weaves may be reclining, steep, or average.



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19-12 Can you see the over one, under four pattern in this example of a satin weave?

last float began. See 19-12.

Satin weave fabrics are known for their luster. Luster is due to the exposed floats reflecting light. Satin weaves feel smooth and are drapable. However, satin weaves are not very durable. The floats tend to catch other surfaces, causing them to snag or break, 19-13.

If the warp yarns form the floats, the fabric is called *satin*. To achieve the most luster, the long floats are made of filament fibers with low twist.

If the filling yarns form the floats, the fabric is called *sateen*. Sateen is not quite as lustrous as satin since spun yarns are used. To improve luster, large yarns with low twist are used in the filling and a special (schreiner) finish is applied.

Knitting

Knitting is new — compared to weaving. It was first done by machine in the 16th

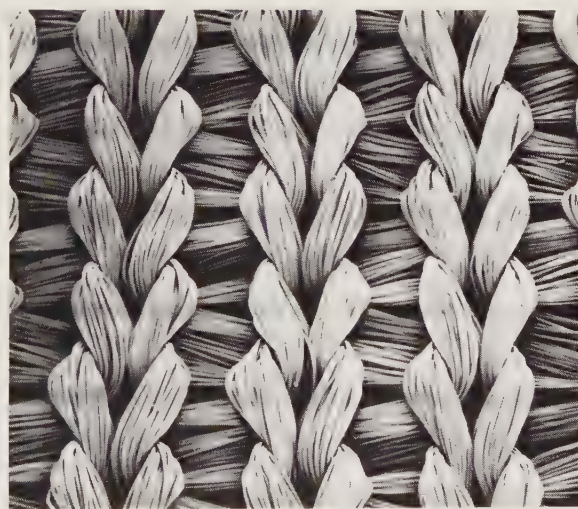


SOMET S.p.A BERGAMO, ITALY

19-13 Computers are used to create designs and to control machines. This machine is producing silk satin-weave necktie fabric.

century. Today, modern knitting machines move faster than the eye can follow. Complex patterns and fine yarns are used. An idea and pattern is developed with the use of a computer. The computer then controls the knitting machine. Knits are a big and exciting part of today's textile story.

A close-up view of knitted fabric is shown in 19-14. You can see that it is not



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19-14 In knitted fabrics, the yarns are looped together.

constructed like a woven fabric. *Knitting* is done by looping the yarns together. One loop of yarn is pulled through another loop, just as you would knit at home. The loops or stitches can be varied to create different patterns and textures. Different yarns produce different effects. Textured filament yarns are often used in knits.

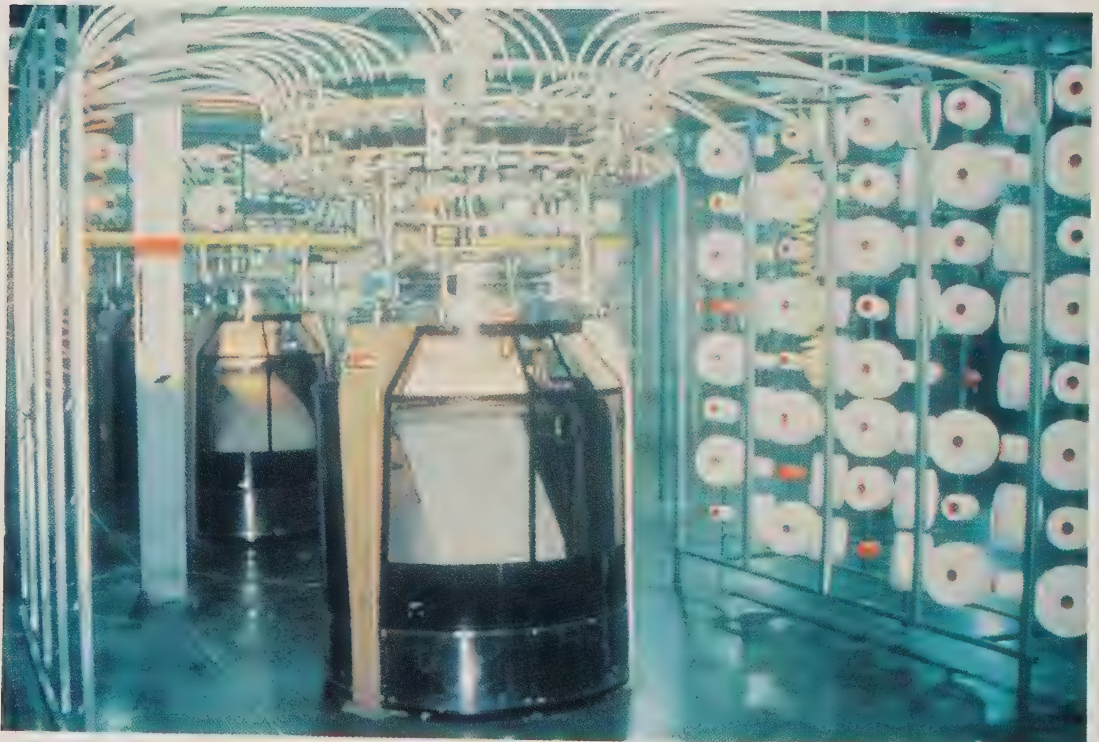
Weft knitting

Two methods of knitting are weft (filling) and warp. The difference is the way the loops are formed.

In weft knitting, the loops are made as yarn is added in the crosswise direction. This can be done by hand or by machine.

Weft knitting machines can be either circular or flat. Circular machines knit the fabric in the shape of a tube. Socks, tights, and hosiery are made on specially designed circular machines. Many of these machines are computerized. Therefore, hundreds of shapes and sizes can be produced.

Generally, flat knitting is more complex than circular knitting. Flat knitting can be done in various ways to produce different effects. Stitches can be added or dropped, changing the fabric width. This creates the shape of the garment, so little sewing is needed to produce the final garment. Sweaters, dresses, and other knit garments are knitted on these machines, as well as



NATIONAL COTTON COUNCIL OF AMERICA

19-15 Knitting machines may use more than 2,500 needles in producing a wide variety of fabrics and shapes.

separate collars, cuffs, and trims. Some weft knit fabrics are listed in 19-16.

One kind of weft knit is the *double knit*. See 19-17. It is used in children's, men's, and women's clothing as well as in household goods. Two sets of needles are used on a weft knitting machine. Although it is called "double" knit, it cannot be separated into two layers. The result is a sturdy fabric which will not stretch or sag. But it has enough "give" to be comfortable.

Warp knitting

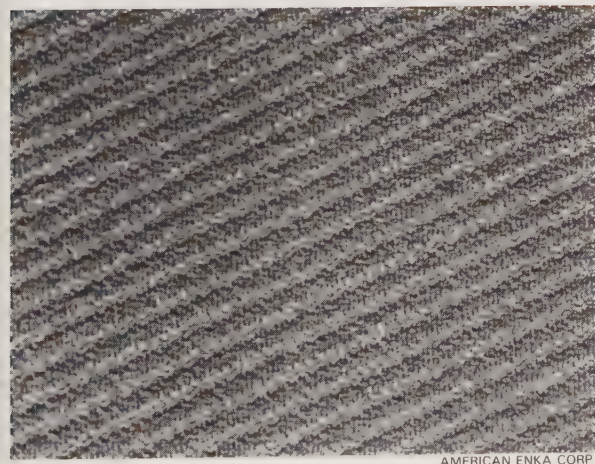
In warp knitting, the loops are made by one or more sets of warp yarns. Each set of warp yarns is as wide as the fabric. An

entire row of loops is made at one time. Then the warp yarns are raised to make the next row. Vertical rows of loops are the product.

Warp knitting is the fastest way to make cloth. Warp knits are made on flat machines. The knit designs and colors to be used are programmed by computer. Warp knit fabrics are listed in 19-18. One is shown in 19-19.

Double knit	Fisherman's knit
Jersey	Purl knit
Rib-knit	Stockinette
Pile-knit jersey	Knitted terry cloth
Velour	

19-16 *Weft knit fabrics.*



19-17 *This double knit is a weft knit. It was produced using textured yarns.*

Tricot jersey
Lace
Power net
Raschel knit

19-18 *Warp knit fabrics.*



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19-19 *This raschel knit is one type of warp knitting. Extra threads were added to the surface to create the novelty effect.*

Warp knits tend to be less elastic and lighter in weight than weft knits. If a loop is broken, weft knits will “run” or “ladder.” Warp knits will not run. But any knit will snag when a loop is pulled. This problem can be solved by bringing the pulled loop to the inside of the garment where it will not show.

Knitted fabrics

Why are knits popular? One reason is the development of manufactured fibers. They are well-suited for knitting. Another reason is that most people today are super-conscious about comfort. Knits answer that need for comfort. They adjust to the shape of your body. They stretch as you sit, walk, reach, and bend.

Knitted fabrics can be warm in the winter or cool in the summer, according to the fiber, yarn, and finish used. Caring for them is easy. They resist wrinkling and most can be washed if you follow the care instructions. Little or no ironing is needed.

Knitted fabrics are very versatile. They can be made from any fiber and any yarn. Most woven fabrics can be copied by a knitted one.

Other fabric constructions

Yarns are made of fibers, and fabrics are made of yarns, right? Well, that is a good rule. But like all rules, it has exceptions. Not all fabrics are woven or knitted. Some fabrics are made directly from fibers. A few fabrics do not even have fibers!

Felt. Felt is made from short wool fibers. Wool fibers have overlapping scales. Under a microscope you would see they look like fish scales. As heat, moisture, and pressure are applied to the fibers, the scales interlock to form a solid mass.

A story is told of how felting was discovered. Shepherds put fleece from their sheep in their sandals for warmth. The heat, moisture, and pressure from their feet caused the wool to become a solid mass of wool fibers or felt.

Felt fabrics are thick, stiff, and warm. They are not as strong as woven or knitted fabrics. Felt is easily molded into any shape. It is used for hats, houseshoes, handicrafts, and household items. See 19-20.

Nonwoven fabrics. Fibers other than wool can be made into a web fabric much like felt. In some cases, the staple fibers are held together by adhesives. For many of the manufactured fibers, heat is used to “melt” the fibers together.



INTERNATIONAL WOOL SECRETARIAT

19-20 Felt is often used for hats. Some jackets and overcoats might also be made of felted fabrics.

Nonwoven fabrics are often used for disposable items. They are less costly than woven or knitted fabrics. Some uses of nonwoven fabrics are: diapers, hospital sheets, operating gowns, bandages, towels, and cleaning cloths. A nondisposable use is for interfacings in garments.

Films. Films are not made of fibers. They are thin sheets of vinyl and urethane. They are often used as a coating on other fabrics. Films are low cost and waterproof. They can be finished to look like leather or any woven fabric.

Fabrics with a urethane coating are easy to sew and easy to clean. They are durable and will remain soft in cold weather. They will not crack or scuff.

Films and film-coated fabrics are used for raincoats, umbrellas, purses, shoes, tablecloths, and upholstery.

Bonded fabrics. Bonding is the process of permanently sealing (like gluing) one fabric to another. A bonded fabric is often more stable.

Tricot knit is often used as the backing fabric. It is inexpensive and allows some stretch. Bonded fabrics have more body than single fabrics, and they wrinkle less. They are easy to sew. They will not fray or ravel, and they do not need to be lined.

Garments of bonded fabrics are warm without being heavy. They are often used for ski wear and winter coats.

ADDING COLOR

Color is a major part of any textile item. As you shop for clothes, the first thing you notice is color, 19-21. You want colors that are in fashion and that look good on you.

Today, *dyes* are used to produce five million different colors. Computers are



SPIEGEL, INC.

19-21 The first thing you notice about this woman's outfit is the bright fuchsia color.

programmed to match these colors. This system saves time and prevents mistakes.

Some dyes come from natural sources, and some are manufactured. No dye is *colorfast* to everything. (Colorfast means that the color will remain in spite of a certain influence such as washing, dry cleaning, perspiration, sunlight, or rubbing.)

The fastness of a color depends on the chemical makeup of the dye, the fibers used and the method of adding the dye. These factors must all work together. You cannot be sure a garment is colorfast just by looking at it. Read the care label. It should warn you if the product is not colorfast under certain conditions.

Dyeing

Dyeing is one way to add color to textile products. The basic dyeing methods are fiber dyeing, yarn dyeing, and piece dyeing.

Fiber dyeing. If fibers are dyed before they are spun into yarns, the process is fiber dyeing. This can be done in two ways. Manufactured fibers are *solution dyed*. Natural fibers are *stock dyed*.

In solution dyeing, the dye is added to the thick liquid before it is forced through the spinneret. In stock dyeing, the dye is added to the loose fibers.

Yarn dyeing. Some yarn is dyed before being formed into fabrics. After spinning, the yarns are tightly wound on tubes, then placed in the dye bath, 19-22. Most fabrics that are plaid or striped, as in 19-23, are yarn dyed. Generally, yarn dyeing costs less than fiber dyeing, but more than piece dyeing.

Piece dyeing. This is the most common method of dyeing. Color is added after the fabric has been made. Piece dyeing allows manufacturers to follow fashion trends

closely. They can wait until the last minute to choose the dye colors. Most, but not all, piece-dyed fabrics are a solid color.

Some dyes will color one type of fiber, but not another. Different dyes can be combined in a single dye bath. When a fabric made of more than one fiber is placed in that dye bath, it can become a stripe or check. This is called *cross dyeing*.

Suppose a red dye for acetate and a blue dye for rayon were mixed in a dye bath. And suppose that an acetate/rayon fabric had been woven in a special way. If this fabric were placed in that dye bath, a red and blue stripe fabric might be made. That is the magic of cross dyeing.

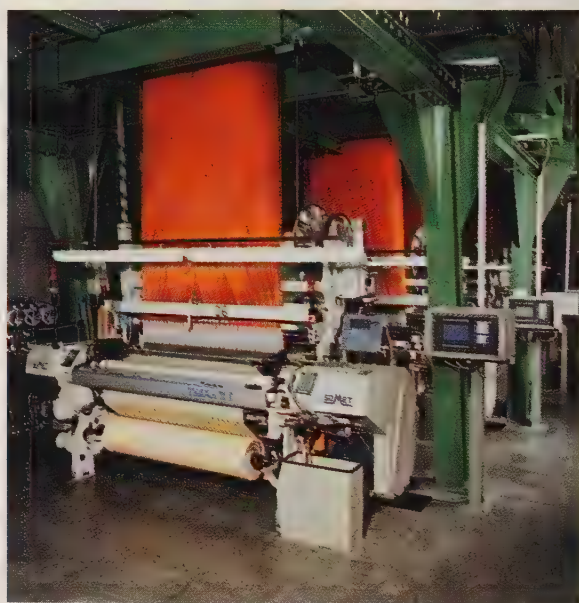
Printing

Color can also be added to fabrics by printing. You can tell whether fabrics have



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19-22 Some yarn is dyed before being woven or knitted into cloth. This yarn will be used to product gingham checks, plaids, woven stripes, and some denims.



SOMET S.p.A., BERGAMO, ITALY

19-23 These warp yarns have been dyed. The finished, woven fabric is striped Jacquard.

been colored in a dye bath or by printing, 19-24. The wrong side of most printed fabrics is much lighter than the right side. Both sides of dyed fabrics are the same color.

There are many ways to print cloth. Two common methods will be discussed here.

In *direct roller printing*, the design is etched on copper rollers. A separate cylinder is used for each color. As the cloth passes through the rollers, each one transfers its color and pattern to the fabric.

Rotary screen printing is one of the newest and fastest printing methods. The design is transferred onto a cylinder-shaped screen. There is a screen for each color. Dye

is forced through a pattern of holes in each screen. The cylinders roll over the fabric, leaving the design.

FINISHING

All fabrics receive some kind of finish. A *finish* is any treatment given to fibers, yarns, or fabrics that makes the final product look, feel, or perform differently. Finishes can be applied with heat, pressure, or chemicals.

Finishes make textile items more beautiful and more useful. But they cannot improve the quality of the fabric itself. Fabric quality depends on the quality of the



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19-24 Color is being added to the fabric by a process called pad-batch dyeing. It is similar to printing on paper.

fibers and yarns and on the method of construction.

Textile finishes

Each of the many different finishes gives certain characteristics to a fabric. Some of the finishes are explained below.

Antistatic. This chemical treatment prevents static electricity. This is done so that garments will not cling to the wearer.

Bleaching. This chemical treatment is used to whiten fabrics that are dull gray when they come from the mill. Bleaching is most often used for natural fibers.

Brushing. Brushing removes the short, loose fibers from the fabric surface. An even, soft pile is made.

Calendering. Heat and pressure are applied to fabrics to produce a smooth, polished surface.

Crease-resistant, durable-press, and wash-and-wear. These three finishes are much the same. They all involve treating fabrics with resins, a special group of chemicals. Resins are “baked” onto cotton, rayon, and linen fabrics. They help fabrics resist wrinkles, but they also make fabrics weaker and less absorbent. Stains are more difficult to remove from fabrics with resin finishes.

Many manufactured fibers achieve a durable-press finish without resins. High temperatures are used to “heat set” fabrics or garments. The desired shape, creases, and pleats are permanent, but wrinkles are resisted.

Flame-resistant. The Flammable Fabrics Act lists general requirements for all clothing and specific ones for children’s sleepwear, carpets, rugs, and mattresses. As a fabric burns, this chemical finish works by cutting off the oxygen supply or chang-

ing the chemical makeup of the fibers.

Mildew-resistant. A metallic chemical is applied to fabrics to prevent mildew.

Mercerization. Cotton and rayon fabrics are chemically treated to improve luster, strength, and absorbency.

Moth-repellent. Chemicals can be added to dye baths to slightly change wool fibers. Moth and carpet beetle larvae will not eat the changed fibers.

Napping. Fiber ends are pulled from low-twist, spun yarns. The fabric surface becomes soft and fuzzy.

Preshrunk. Fabrics are shrunk by moisture and heat. Later, when consumers buy the fabrics or garments, they will not shrink more than three percent unless otherwise stated.

Sanforized.® This trademark means that fabrics have been processed so that they will not shrink more than one percent in either direction.

Scotchgard.® This is a trademark for an oil and water-repellent finish.

Soil-release. This finish allows fabrics to be more easily “wetted.” This helps detergents release soil. It is often used with durable-press finishes.

Water-repellent. This finish is applied to tightly woven fabrics to help them resist water. The finish cannot resist heavy rain or long exposure to rain. It is not a permanent finish, but it can be renewed.

Water-repellent finishes are not the same as waterproof fabrics. *Waterproof* fabrics are films or film-coated fabrics. No water can soak into these fabrics. They are cheaper, but less comfortable than fabrics with a water-repellent finish.

Weighting. Addition of metallic salts to silk increases the fabric weight and crispness.

to know

blends	piece dyeing
bonded fabrics	pills
colorfast	plain weave
combinations	ply yarn
cord yarn	satin weave
felt	single yarn
fiber dyeing	spun yarn
filling yarns	textured yarns
films	twill weave
finishes	twist
Jacquard looms	warp knitting
knitting	warp yarns
looms	weaving
monofilament yarns	weft knitting
multifilament yarns	yarn dyeing
nonwoven fabrics	

to review

- Which are made from staple fibers?
 - Spun yarns.
 - Monofilament yarns.
 - Multifilament yarns.
- Name two reasons for adding twist to a yarn.
- Which list is arranged from the smallest to the largest yarn?
 - Single, cord, ply.
 - Single, ply, cord.
 - Ply, cord, single.
 - Cord, ply, single.
- When different staple fibers are spun into a single yarn, the result is a (blend, combination).
- In woven fabrics, the lengthwise yarns are the _____ yarns. The crosswise yarns are the _____ yarns.
- Name the three basic weaves and one fabric made from each.
- What is the basic difference between weaving and knitting?
- List three uses of nonwoven fabrics.

9. Which type of fabric is NOT made of fibers?

- Woven fabrics.
- Nonwoven fabrics.
- Felt.
- Films.

10. Explain two methods of dyeing.

11. In _____ printing, the design is etched on copper rollers.

12. Describe four finishes for textile items.

to do

1. Unravel some fabric samples. Identify the kinds of yarns used.

2. Look through a catalog of ready-to-wear clothing. Make a list of the fiber blends that are listed.

3. Using narrow strips of colored paper, construct small samples of basic weaves. Display. Discuss characteristics of each.

4. Collect samples of fabrics that have been woven or knitted by different methods. Identify.

5. Display various samples of felt, films, nonwoven fabrics, and bonded fabrics. Also display pictures of their end uses.

6. Examine several fabric samples. Tell which ones were dyed and which ones were printed.

7. Research various natural dyeing techniques used many years ago.

Experiment with the processes using pieces of muslin fabric. Display the fabrics along with a description of how they were dyed.

8. Divide the class into two groups. Have a "spelling bee" game using textile finishes and their definitions.

9. Make several large tic-tac-toe designs on a sheet of paper. In each square, list different fabrics, weaves, dyeing methods, and finishes. Then visit a fabric department or store. Place an X in each square that matches the description of a fabric you find. See who finishes first.



Chapter

20

Sewing Equipment

After studying this chapter you will be able to

- list and discuss the basic supplies needed for sewing.
- describe additional sewing supplies that will make your sewing job easier.
- identify and describe the various parts of a sewing machine.
- operate a sewing machine correctly.
- recognize and solve minor sewing machine problems that might occur.
- discuss the uses and advantages of a serger.

Every kind of job requires special equipment. Some tools are necessary to do the job. Others just make the job easier. To be a successful sewer, you need some special equipment. The list of basic supplies in 20-1 is not long. Other tools can be added as you need them and can afford them, 20-2. Do

Shears
Tape measure
Tracing wheel
and paper
Needles
Pins

Pincushion
Thread
Sewing box
Iron
Ironing board
Sewing machine

20-1 A successful sewer needs these supplies.

Scissors
Pinking or scalloping
shears
Clipper or seam ripper
Sewing gauge
Yardstick or meterstick

Skirt marker
Tailor's chalk
Thimble
Sleeve board
Press cloth
Pressing ham

20-2 These pieces of equipment make sewing easier.

some comparison shopping to get the most for your money.

SHEARS AND SCISSORS

Many types of shears and scissors are available, 20-3. The list of basic supplies includes a pair of shears. Other cutting tools are helpful additions.

Shears and scissors are not the same.

Shears are usually longer than scissors. The handles are not the same size. They are shaped to fit your hand. Left-handed persons should use left-handed shears.

Shears are used to cut pattern pieces from the fabric. Bent-handled shears, as in 20-4, are the most popular cutting tool for fabric. The bent handle allows the fabric to lie flat as it is cut. This results in more accurate cutting.



J. WISS & SONS CO.

20-3 Shears, scissors, and thread clippers come in various shapes and sizes.



PELLON, DIV. OF FREUDENBERG NONWOVENS

20-4 *Shears with bent handles allow the fabric to lie flat so it can be cut accurately. Notice that the index finger is in front of the handle opening to give better control.*

Scissors, as shown in 20-5, are usually short. The handles have small, matching holes. Blades are different widths. They are used to clip around curves and trim seams. They are lightweight and easy to handle.

A good pair of shears will cost more than most of your other basic supplies. Comparison shopping is important. The most costly is not always the best. Hold the shears, and slowly open and shut them as if you are cutting. You can feel how smoothly they cut. Check to see if the cut continues to the tips of the blades. Carefully read any tags or labels available. Ask about a guarantee.

If you care for shears properly, they will last for years. Use them only for cutting fabric — not for cutting string, paper, or anything else. Keep them in a dry place. Oil them with sewing machine oil occasionally at the adjusting screw. If they become dull, have them sharpened by someone who knows the correct way.

Pinking shears have a zigzag cutting edge. They are used to give seam edges a finished look. They can also be used to achieve a decorative look on nonwoven fabrics. They should not be used to cut garment pieces from fabric. The uneven edge



20-5 *Scissors have matching holes in the handles. They are used to cut into corners, open buttonholes, and trim seams.*

is difficult to follow when sewing. Seam edges can be pinked after the garment is made.

Scalloping shears are much like pinking shears. They are used in the same way for the same reasons. The difference is in the shape of the cutting edge. Scalloping shears have a more curved shape.

A *clipper*, as in 20-6, is used to clip threads at the start and end of every stitching line. Spring action reopens the blade after each cut. This tool can also be used as a seam ripper to undo mistakes in sewing or to remove basting stitches.



20-6 *A thread clipper and seam ripper can be helpful. Spring action reopens the blade after each cut.*

MEASURING TOOLS

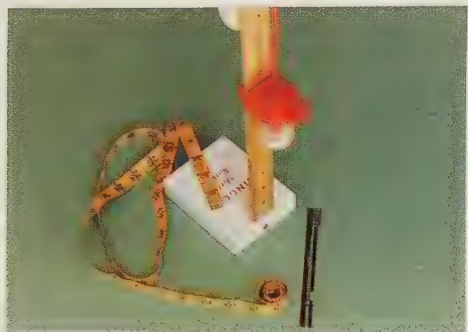
Measuring tools are needed for accurate sewing. See 20-7. You need a *tape measure* to take body measurements. It is 60 inches (152.4 cm) long. One made of plastic or strong fabric does not stretch. Metal ends protect it for longer use. A tape measure should not be left to tangle with other supplies in your sewing box. Roll it neatly, and store it in a corner.

To mark an even hem, you may want to use a *skirt marker*. As you wear the garment to be hemmed, stand beside the skirt marker. Your friend or teacher will mark the placement of the hem with pins, measuring the distance from the floor. A yardstick or meterstick could also be used.

A *sewing gauge* is a 6 inch (15 cm) ruler with a sliding marker. It is used to measure hems, cuffs, space between buttons, and other short distances. Although this tool is not necessary, it is inexpensive and handy.

MARKING TOOLS

Marking tools are used to transfer pattern markings to the fabric. These markings help you put the pattern pieces together in the right way. Tracing wheels,



20-7 A tape measure, skirt marker, and sewing gauge are helpful measuring tools.

dressmaker's carbon paper, tailor's chalk, marking pens, and pencils are types of marking tools, 20-8. They are inexpensive. You can find them in fabric and chain stores. Choose a color close to the color of your fabric. If the color shows through on the right side, you will not notice it. Do not use ballpoint pens. The ink will soak through the fabric.

Fabric marking pens are one of the easiest and fastest ways to mark fabric. These pens contain a disappearing ink that makes it possible to mark on either the right or wrong side of the fabric. There are two types, water-soluble pens and evaporating marking pens. Water-soluble pens contain a blue ink that disappears when the marks are treated with water. Evaporating marking pens contain a purple ink that evaporates in less than 48 hours. To be sure your markings will still be there when you need them, do not use this type of pen until just before you are ready to sew.



20-8 Fabric marking pens are an easy and fast way to transfer pattern markings to fabric. Other tools that might be used are tailor's chalk, marking pencils, or dressmaker's carbon paper and a tracing wheel.

NEEDLES

There are many sizes and styles of hand needles. Hand sewing is easier when you use the right needle. Coarse needles are for heavy fabrics, and fine needles are for delicate fabrics. A package of assorted sizes would be a good choice.

The sizes for *coarse* needles are low numbers. The sizes for fine needles are high numbers. Therefore, a size 1 needle is larger than a size 12 needle. Size 7 or 8 is used for most common hand sewing tasks.

Three types of needles are sharps, betweens, and crewel. *Sharps* are most often used for hand sewing. They are average in length and have a small eye. *Betweens* are short needles with a small eye. *Crewel needles* have larger eyes. They are used for crewel and embroidery projects as well as hand sewing.

Two types of machine needles are *ballpoint* and *sharp*. Use a ballpoint for knits and stretch fabrics. The rounded tip allows the needle to slip between the yarns. Use a sharp for woven fabrics. Replace sewing machine needles when they become dull or bent. A damaged needle can harm fabric and cause stitching problems.

PINS

Pins are used to attach pattern pieces to fabric and to pin garment pieces together before sewing. Marking should not be done with pins alone because the pins fall out of place before the marking can be used.

Dressmaker's pins are not for "dressmakers" only. They are medium in diameter with sharp points. Since they are brass, they will not rust.

Silk pins are very slender. They have the

sharpest points. They were first designed for use with silk or very fine fabrics, so they were called "silk" pins. These pins come in boxes or in paper folders.

Ballpoint pins are recommended for use with knit fabrics. The rounded point slides between the yarns instead of cutting through them.

You may want to select pins with large, round heads. They are easy to see and to handle. Buy more pins than you think you need. They disappear fast!

PINCUSHIONS

Never put pins in your mouth. Pins belong in pincushions. You can choose from many shapes and sizes of pincushions. Some can be worn on your wrist to keep the pins handy.

Some pincushions have a small strawberry-shaped emery bag attached to them. You can remove a rough spot or a dull point on a needle or pin by pushing it into the bag several times. You may prefer to leave the bag in your sewing box rather than have it dangle from your pincushion.

THIMBLES

When sewing by hand, a needle can damage your finger if you are working with thick or tightly woven fabric. Thimbles help push the needle through the fabric. Choose one with deep enough grooves to hold the needle securely. Thimbles are either metal or plastic. Put the thimble over your middle finger on your sewing hand. It should be snug but not tight. It will feel awkward at first, but it will soon become a helpful tool. A thimble and some basic sewing supplies are shown in 20-9.



20-9 *Needles, pins, pincushions, and thread are basic sewing supplies. For those who learn to handle them, thimbles are handy tools.*

NOTIONS

In addition to sewing tools, you need notions. *Notions* are items other than fabric that become part of a garment or project. Thread, zippers, buttons, snaps, hooks and eyes, hook and loop tape, tapes, trims, elastics, and interfacings are notions. The notions you need for your garment or project will be listed on your pattern envelope under *notions* or *supplies needed*.

Buy your notions at the same time you buy your fabric. This way you can match colors. You will also save time shopping. You can finish your project without having to go back to the store for a needed notion.

When selecting notions, keep in mind the care of your finished garment. If you are planning to wash your garment, check to see that your notions are also washable.

Thread

Thread comes in a wide variety of colors and fibers. If you are using solid-colored fabric, select thread that is slightly darker. (Thread looks lighter when it is stitched into fabric.) If your fabric is a print or a plaid, try to select thread that matches the main color in the fabric. See 20-10.

Choosing the right fiber content of thread is just as important as choosing the color. Match the fiber content of your thread as closely as possible to that of your fabric. There are three main types of thread available. They are polyester or polyester/cotton, mercerized cotton, and specialty threads.

Polyester or *polyester/cotton thread* is an all-purpose thread that can be used for sewing almost all fabrics. It is strong, stretchable, and has minimum shrinkage. This thread is often used to sew on knit and stretch fabrics because of its strength and ability to “give.”

Mercerized cotton thread is used to sew on woven fabrics made of natural fibers. Although it sews well, it has limited stretch-



20-10 *If you run out of thread before a project is completed, refer to the number on the thread label. This way you will be sure you are buying the same color of thread.*

ing ability. Seams sewn with it could rip if there is excess strain.

Specialty threads are used for specific projects. *Silk thread* is recommended for sewing on sheer and delicate fabrics. It is also used on wool and silk fabrics. *Nylon thread* is used for sewing heavy fabrics such as upholstery. *Heavy-duty thread* is also used for heavier fabrics that require heavy thread. *Buttonhole twist* is used for topstitching and handworked buttonholes. It is thicker than other threads. *Basting and quilting threads* are used to make quilts and other craft items.

Fasteners

Fasteners are used to close openings on garments. They include zippers, buttons, hooks and eyes, snaps, and hook and loop tape. The type of fastener you need will be listed on your pattern envelope.

Zippers are available in various colors, types, and lengths. Like thread, you need to match the color of the zipper to the fabric. Check your pattern envelope for the type and length zipper you need. Zippers are available with both nylon and metal teeth in various weights and thicknesses. The zipper tapes may be made of cotton or manufactured fibers. They may be firmly woven or stretchable.

Different types of zippers have different uses. *Conventional zippers* are used most often. They open only from the top. *Separating zippers* can come apart at the bottom. They are used on jackets and parkas. *Invisible zippers* look like regular seams from the right side of the garment. No stitching is visible. The special way they are sewn gives them this appearance. *Two-way zippers* have sliders at the top and the bottom. They can be opened at either end.

Trouser zippers have wider tapes and teeth than other zippers. The teeth are often made of metal.

Buttons can be decorative or functional. The size and number of buttons you need are listed on your pattern envelope. (A button's size is its diameter.) Two common types of buttons are sew-through buttons and shank buttons. *Sew-through buttons* have two to four holes in them. Thread is stitched through the holes. *Shank buttons* have a loop underneath the button. You stitch the thread through the loop.

Hooks and eyes come in a variety of sizes. Regular hooks and eyes have curved or straight eyes. Trouser hooks and eyes are wider and flatter. *Snaps* also come in many sizes. They can be used covered or uncovered depending on the garment. Hooks and eyes and snaps usually come in black and silver. Black is usually used on dark-colored fabrics. Silver is often used on light-colored fabrics.

Hook and loop tape is made up of two pieces of nylon. One piece has tiny nylon loops. The other has a fuzzy surface. When the two pieces are pressed together, they stick to one another. Hook and loop tape may come in precut shapes such as circles and squares. It is also available in strips by the yard. A common brand of hook and loop tape is Velcro®.

Tapes and trims

Tapes and trims are available in a variety of types, widths, and colors. They may be firmly woven or stretchable. The type you choose depends on how you will use it.

Tapes and trims can be functional as well as decorative. For instance, colorful seam tape can be used to finish hems and facing edges. Other colorful trims are made into

designs to decorate garments. Tapes can be used to cover fabric edges or reinforce seams to keep them from stretching.

A number of tapes and trims are available. They include seam tape, hem tape, bias tape, hem facing, twill tape, ribbon, lace, braid, piping, and ribbing. Check the package directions for how they are to be used and how to apply them.

Elastics

Elastic is used to give better fit to garments. It is available in different widths and types. When buying elastic, check to make sure you get the kind you need. *Woven elastic* can be used in a casing (an enclosure to hold elastic). It can also be stitched directly to a garment. *Braided elastic* becomes narrow when it is stretched. It is only used in casings. *Elastic thread* may be thin or heavy. Thin elastic thread may be used on the lower edges of sweaters to help them hold their shape. Heavier elastic thread may be used on jacket waistlines. There is also specially designed elastic for swim wear and lingerie.

Interfacings

Interfacing is a fabric used under fashion fabric to prevent stretching and provide shape to a garment. It also adds strength to necklines, buttonholes, and front closings. It gives shape to collars, cuffs, waistbands, and pockets.

When choosing interfacing, consider the weight of your fabric. As a rule, choose interfacing the same weight or a little lighter weight than your fabric. Make sure your interfacing has the same care instructions as the other fabric you are using. Interfacings come in both woven and nonwoven types. They are also either sew-in or fusible.

SEWING BOX

You will need some kind of container or sewing box to keep your small equipment organized, 20-11. You can either buy one or make one. If you buy a sewing box, look for one with many sections so you can keep your tools separated. If you make one, use a large box which will hold several small boxes, or divide the box into sections with pieces of cardboard.

PRESSING EQUIPMENT

Your work will be neater and you can check the fit of a garment if you press as you sew. Irons vary in features and cost. A dry iron can be used successfully. A damp pressing cloth will supply steam if it is needed. A steam iron is more convenient.

To prevent *iron shine*, also cover your garment with a *press cloth* before you press. You will iron out wrinkles without making the fabric surface shiny. A *pressing mitt* and *sleeve board* are handy for pressing small details, 20-12. Curved seams and darts can be easily pressed with a *pressing ham*. The garment lies flat against its rounded shape and curved edges.



DRITZ SEWING NOTIONS, PRYM DRITZ

20-11 A sewing box can help you keep all of your small sewing equipment organized.

An *ironing board* should be sturdy, level, and adjustable for different heights. A smooth padding with a tight-fitting cover is best. A silicone-treated cover helps prevent scorching and sticking. Keep the cover smooth and clean so as not to press wrinkles or soil into fabrics.

THE SEWING MACHINE

Since Elias Howe patented his sewing machine in 1846, many changes in shape and features have been made. The latest



JUNE TAILOR, INC.

20-12 Pressing affects the final appearance of garments. A small pressing mitt helps you get good results.

change has been the addition of computer technology. Thread tension, stitch length, and buttonhole size can be automatically set. Many more stitches are often available.

If you have ever sewn a seam by hand, you can appreciate the efficiency of a sewing machine. It is a complex piece of machinery. Before you sew, you should learn how the machine you will use works. Different models and brands vary in some ways. They may thread differently. Some may have special features. Regardless of the model you use, you must know some basics: threading, starting, controlling the speed, backstitching, and stopping at the desired spot.

Knowing the machine

When you know the names of the parts of your sewing machine and what they do, you can discuss them in a mature way. You will not have to refer to each part as “this thing” or “that knob.”

The *head*, shown in 20-13, is the top part of the machine. It holds many moving parts that help the machine operate. As you lift it from its storage cabinet, be careful not to drop it. It is heavy and requires both hands for lifting.

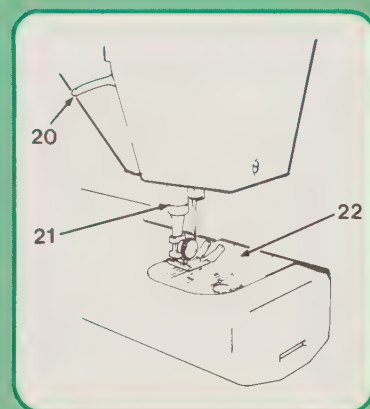
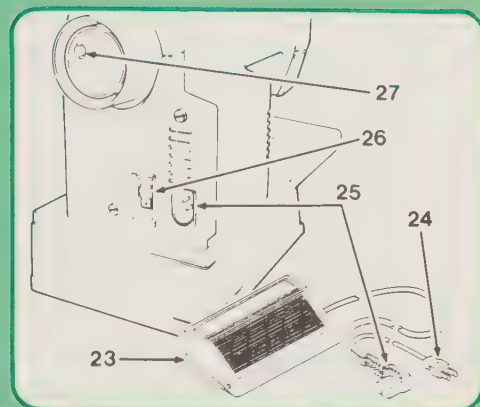
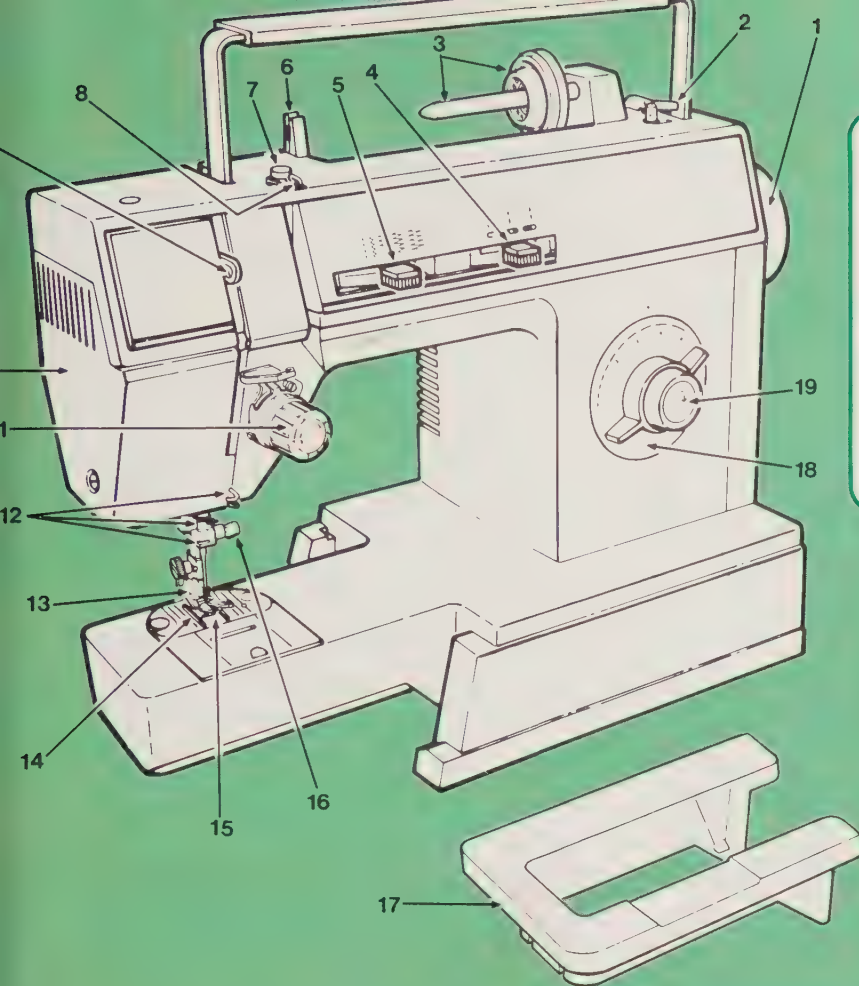
Hand wheel controls movement of the take-up lever and needle. It turns as the machine runs. You can move the needle up and down by turning the wheel toward you with your hand.

Bobbin winder guides the thread when filling the bobbin with thread.

Spool pin and cap holds the spool of thread.

Needle position selector places the needle in either left, center, or right stitching position.

Stitch width lever controls the width of



THE SINGER SEWING COMPANY

1. Hand wheel
2. Bobbin winder
3. Spool pin and cap
4. Needle position selector
5. Stitch width lever
6. Thread guide
7. Bobbin winder tension disc
8. Thread guide
9. Take-up lever

10. Face plate
11. Needle thread tension dial
12. Thread guides
13. Presser foot
14. Feed system
15. Needle plate
16. Needle clamp
17. Removable extension table
18. Stitch length dial

19. Reverse-stitch button
20. Presser foot lifter
21. Thread cutter
22. Slide plate
23. Speed controller
24. Electrical power cord
25. Machine plug
26. Power and light switch
27. Bobbin winding indent

20-13 Parts of a sewing machine.

zigzag stitching. It also positions the needle for straight stitching.

Thread guides lead the thread to the needle.

Bobbin winder tension disc regulates thread tension for bobbin winding.

Take-up lever controls flow of needle thread. It must be at its highest position each time you start to sew. If it is not, the thread will be pulled up and away from the needle as the lever rises, and you will have to thread the needle again.

Face plate swings open for access to movable parts and light.

Needle thread tension dial lets you set the tension for your particular project. Your fabric, stitch, and thread will determine the tension setting you need.

Presser foot holds fabric against feed system teeth.

Feed system moves fabric under the presser foot.

Needle plate has guidelines to help you sew straight, even seams. It also supports the fabric during sewing.

Needle clamp holds the needle in place.

Removable extension table lets you change from flat bed to free arm.

Stitch length dial regulates the length of the stitches. Some models have a special setting for stretch stitching.

Reverse-stitch button lets you stitch backward.

Presser foot lifter allows you to raise and lower the presser foot.

Thread cutter is on the back of the presser bar for convenience.

Slide plate covers the bobbin and bobbin case.

Speed controller is used to operate the machine. Press down on it to stitch.

Electrical power cord connects machine to the electrical outlet.

Machine plug connects the speed controller and power line to the motor.

Power and light switch turns on machine and sewing light at one time.

Bobbin winding indent is used to stop needle movement for smooth, even bobbin winding.

An important item that comes with your sewing machine is the *instruction manual*. It shows you the parts of your machine and tells you what they do. It describes any ac-

cessories that come with your machine. It tells you how to prepare your machine for sewing. It explains your machine's special features. It gives directions for the care of your machine. Some even include instructions for sewing techniques.

Using the machine

Machines operate with two threads: the needle thread and the bobbin thread. The needle thread runs from the spool pin, around the tension discs and through the take-up lever, thread guides, and needle. The bobbin thread runs from the bobbin plate up through the throat plate. Your teacher will show you how to thread your particular machine. If you have diagrams, study them carefully. See 20-14.

A problem of most beginner is learning



20-14 This sewing machine is threaded and ready to go.

to operate the machine at a moderate speed. They either go too fast or much too slow.

You can practice controlling the speed of a sewing machine by stitching on paper patterns without thread.

When you feel you are ready, thread your machine. Begin to sew, using some fabric scraps. See if you can do as well on

fabric as you did on paper. Use two layers since most sewing is done with two pieces of fabric.

Study the chart of sewing machine problems and cures in 20-15. Someday you may have one of these problems. Learn to be your own detective and solve your own problems. A word of caution: *never* turn dials, knobs, or screws on the school's

MINOR PROBLEMS AND CURES FOR SEWING MACHINES

PROBLEM	CAUSE	CURE
1. Loud noise as you start to sew and matted threads in seamline.	Machine threaded wrong.	Thread machine again.
2. Lower thread breaks.	Lower tension too tight. Knot in bobbin thread.	Adjust tension screw. Check thread.
3. Puckered seamline.	Tension too tight. Thread too heavy or too light for fabric. Pulling on fabric.	Check by sewing on different weight fabric.
4. Machine locks. Needle will not go up and down.	Thread caught in bobbin.	Turn hand wheel backward to release thread.
5. Skipping stitches.	Needle bent, blunt, too long or short. Needle threaded wrong.	Check needle. Thread needle again.
6. Looped stitches. Top line. Bottom line.	Top tension adjusted wrong. Bottom tension adjusted wrong.	Check tension.
7. Needle picks or pulls thread in line of stitching.	Point of needle bent when it hit a pin.	Insert new needle.
8. Needle breaks.	Presser foot loose and needle hit it. Pulling fabric while stitching.	Tighten presser foot. Do not pull fabric.
9. Machine runs "hard."	Needs cleaning and oiling.	Clean and oil according to instruction booklet.
10. Machine will not run at all.	Machine may be unplugged. Cord or outlet may be defective.	Check to see if plugged in tightly. Check another outlet to see if cord is okay.

20-15 You can save time and frustration by learning to recognize common sewing machine problems and knowing how to solve them.

sewing machine without asking your teacher. You could be without a machine until someone comes to repair it for you!

SERGERS

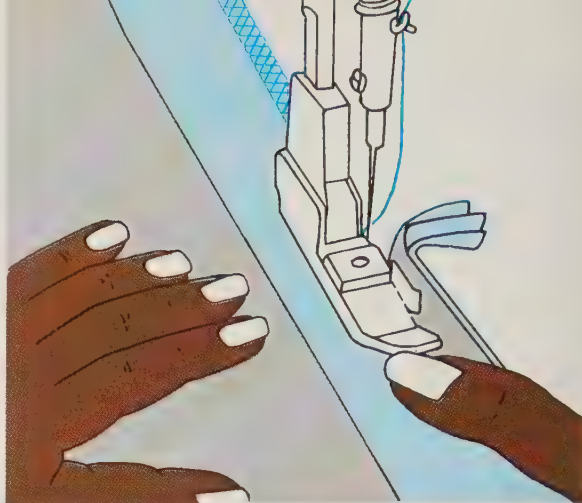
Sergers, or overlock machines as they are sometimes called, provide a factory-like finish to home-sewn garments, 20-16. These machines join two layers of fabric to form a seam, trim away extra seam allowance width, and overcast the fabric edges all in one step. See 20-17.

Since the serger performs three functions at once, and since it runs at nearly twice the speed of a conventional sewing machine, it can reduce the sewing time of a project by as much as half.

A serger uses two, three, four or five spools of thread, called *cones*, depending on the model. Sergers use one or two needles. Sergers do not have bobbins but have loopers, both upper and lower. The



20-16 A serger can give your finished sewing project a professional look. Some sergers are computerized.



20-17 A serger forms a seam, trims away excess seam allowance and overcasts the edges to produce a factory-like finish.

needles and loopers form the stitches over the fabric edge as it passes through the machine. Knife blades trim off the fabric as it is stitched.

The serger works well on fabrics from lightweight chiffon to heavyweight denim. Most serger stitches are stretchable so they can be used on knit fabrics as well as on wovens. Test the tension on a sample before you sew, and adjust the stitch length and width.

Whether you make something to wear or something for your home, serging can enhance its appearance both on the inside and outside. A professional seam finish can be given to garments such as unlined jackets. Hems and ruffles can be done quickly and easily with a serger. You can also give a professional look to items such as curtains and placemats with a serger.

A serger supplements a conventional sewing machine, but does not replace it. A conventional machine is still necessary for topstitching, buttonholes, and decorative embroidery stitches.

to know

ballpoint pins	scissors
betweens	separating zippers
clipper	sergers
crewel needles	sew-through buttons
conventional zippers	sewing gauge
dressmaker's pins	shank buttons
fasteners	sharps
invisible zippers	shears
ironing board	silk pins
notions	skirt marker
pinking shears	sleeve board
press cloth	tape measure
pressing ham	trouser zippers
pressing mitt	two-way zippers
scalloping shears	

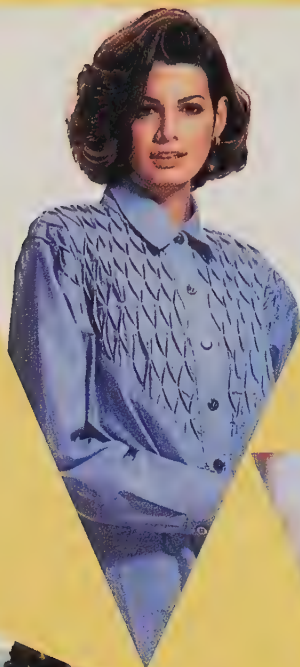
to review

1. List seven basic sewing supplies.
2. Explain the difference between scissors and shears.
3. What is the advantage of bent-handled shears?
4. Describe pinking shears and their use.
5. List two factors to consider in buying a good tape measure.
6. Discuss marking tools for use in sewing.
7. Which type of needle is most often used for hand sewing?
 - a. Sharps.
 - b. Betweens.
 - c. Crewel.
 - d. Ballpoint.
8. Which pins should be used with knitted fabrics?
9. Describe a sewing gauge and its use.
10. When is a thimble needed?
11. What should you keep in mind when you match the color of your notions to your fabric?
12. What is the advantage of pressing each piece as you sew rather than waiting until the garment is finished?

13. List the three functions performed by a serger.

to do

1. Have an equipment-marking day at the beginning of the sewing unit. Everyone labels each piece of equipment clearly with name and class period.
2. Select a partner. Choose a piece of sewing equipment. One tells the class factors to consider in purchasing it. The other explains how to use and care for it.
3. Arrange some pieces of small equipment on a bulletin board. Caption: "Use the Right Tools to Build Your Garment."
4. Try removing a rough spot on a pin by using an emery bag attached to a pincushion.
5. Visit notions departments. Find unusual equipment and items. Give a report on curved needles, beeswax, trims, etc.
6. Ask older people about sewing equipment they and their grandmothers used. Was it different? What changes have been made? Make a report.
7. Practice using a thimble. Decide if this is a tool you will want to buy.
8. Iron a scrap of polyester fabric without using a press cloth. Can you see "iron shine"?
9. Ask your teacher to demonstrate how to oil the sewing machines in your classroom.
10. On a classroom sewing machine, demonstrate filling a bobbin, threading the bobbin, controlling speed, following lines, turning corners, and storing the machine.
11. Practice zigzag stitching on both single and double layers of fabric.
12. Demonstrate the use of a serger or ask a local sewing machine company representative to demonstrate one to your class.



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Part 5

Starting to Sew

- 21 *Figure Types and Pattern Sizes, 334***
- 22 *Looking at Patterns, 346***
- 23 *Sewing Skills, 357***
- 24 *Advanced Sewing Skills, 395***
- 25 *Sewing Handcrafts for Fun and Profit, 409***

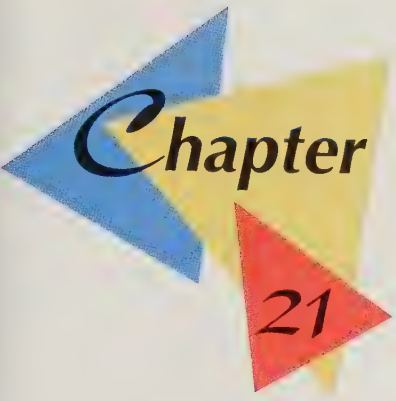
Simplicity





PINEAPPLE APPEAL

Since people are different sizes and shapes, clothes and patterns are available in different sizes and figure types. For a good fit, determine what figure type and size are best for you.



Chapter

21

Figure Types and Pattern Sizes

After studying this chapter you will be able to

- determine your figure type and pattern size.
- take accurate body measurements.
- select a pattern that fits you.
- explain the importance of pattern ease.

When you look around you, you see students of all sizes and shapes. Some are more mature in growth than others of the same age. You can find tall, short, thin, and stout persons all in the same group!

You may not be able to wear the same size of clothing as the student beside you. Ready-to-wear clothes as well as clothes patterns are made in many sizes to suit the many types of persons. The difficult part of choosing clothes or patterns is getting ones that fit.

All pattern companies group patterns under *figure types* according to height and proportion. The female figure types are Girls', Girls' Plus, Misses', Miss Petite, Women's, and Women's Petite (Half-Size). For males, the figure types are Boys', Teen-Boys', and Men's. See 21-1 and 21-2.

DETERMINING YOUR FIGURE TYPE

Your figure type is based on your height, your proportions, and your body type. Your height and back waist measurements can be used to determine your figure type.



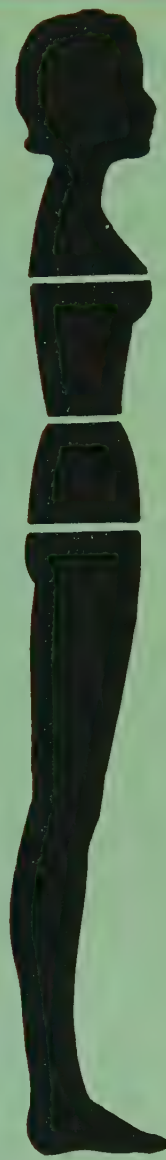
GIRLS'

No defined bustline.
Short waist length.
Very young figure,
not yet developing.



GIRLS' PLUS

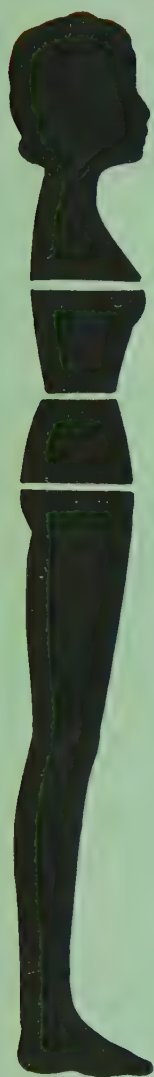
Slightly developed bustline.
Short waist length.
Young, growing girls' figure,
above average weight
in proportion
to age and height.



MISSSES'

Height 5'5" to 5'6".
Average bust position.
Average waist length.
Fully-developed,
well-proportioned figure
considered to be the
"average" figure, also
the tallest.

21-1 Figure types of girls and women.



MISS PETITE

Height 5'2" to 5'3".
Average bust position.
Short waist length.
Fully-developed, but shorter
Misses' figure.



WOMEN'S

Height 5'5" to 5'6".
Average bust position.
Average waist length.
Proportionately larger, more
mature figure with slightly
longer back waist length
measurement due
to fuller back.



WOMEN'S PETITE (HALF-SIZE)

Height 5'2" to 5'3".
Low bust position.
Short waist length.
Short, fully-developed figure
with narrow shoulders.
Bust is smaller in proportion
to waist and hips.

THE McCALL PATTERN COMPANY

Some of the figure types have their own sections in the pattern catalogs. This helps you to quickly find the section you want without flipping through the entire catalog.

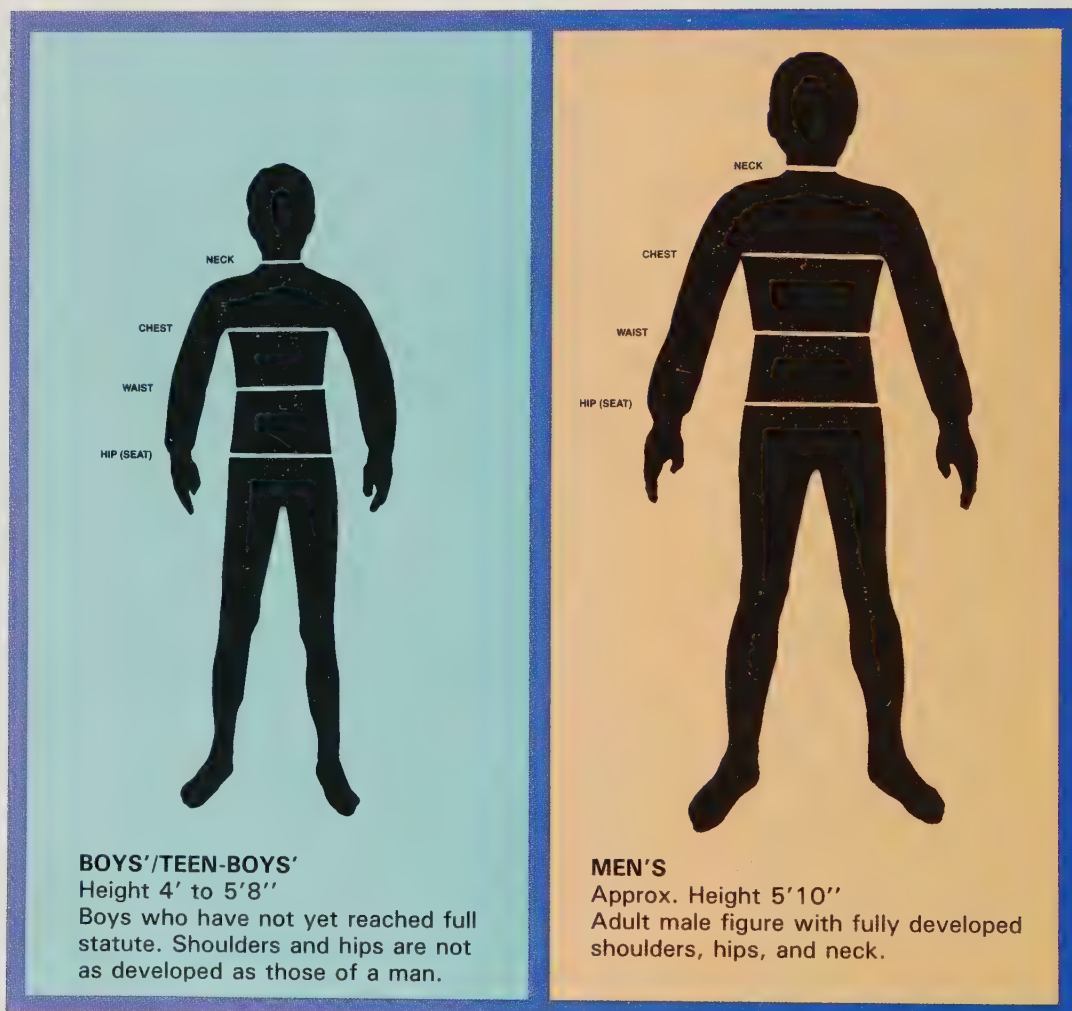
DETERMINING YOUR SIZE

Most pattern companies use the same standard sizes. *Standard sizes* remain the same from issue to issue of the catalogs. Pattern sizes may or may not correspond

to ready-to-wear sizes. The sizes of ready-to-wear garments are not standardized.

Pattern sizes are determined by bust or chest, waist, and hip or seat measurements. There are different sizes in each figure type. The measurements for each figure type for girls and women are shown in 21-3. The measurements for men's and boys' sizes are listed in 21-4.

Some patterns are designed for either males or females. The styles are often more



THE McCALL PATTERN COMPANY

21-2 Figure types of males.

Pattern Sizes and Body Measurements

INCHES

Girls'/Girls' Plus—For growing girls who have not yet begun to mature.

Girls' Plus are designed for girls over the average weight for their age and height.

Sizes	Girls'					Girls' Plus				
	7	8	10	12	14	8½	10½	12½	14½	16½
Chest	26	27	28½	30	32	30	31½	33	34½	36
Waist	23	23½	24½	25½	26½	28	29	30	31	32
Hips	27	28	30	32	34	33	34½	36	37½	39
Back Waist Length	11½	12	12¾	13½	14¼	12½	13¼	14	14¾	15½
Approx. Height	50	52	56	58½	61	52	56	58½	61	63½

Misses'/Miss Petite—For well-proportioned, developed figures.

Misses' about 5'5" to 5'6" without shoes. Miss Petite under 5'4" without shoes.

Sizes	4	6	8	10	12	14	16	18	20	22	24	26
Bust	29½	30½	31½	32½	34	36	38	40	42	44	46	48
Waist	22	23	24	25	26½	28	30	32	34	37	39	41½
Hip-9" below waist	31½	32½	33½	34½	36	38	40	42	44	46	48	50
Misses-Back Waist Length	15½	15½	15¾	16	16¼	16½	16¾	17	17¼	17¾	17½	17¾
Miss Petite-Back Waist Length	14¼	14½	14¾	15	15¼	15½	15¾	16	16¼	16¾	16½	16¾

Women's/Women's Petite (Half Size)—For larger, more fully mature figures.

Women's about 5'5" to 5'6" without shoes. Women's Petite under 5'4" without shoes.

Sizes	Women's	16W	20W	22W	24W	26W	28W	30W	32W
Women's Petite		36	38	40	42	44	46	48	50
Bust		40	42	44	46	48	50	52	54
Waist		33	35	37	39	41½	44	46½	49
Hip-9" below waist		42	44	46	48	50	52	54	56
Women's Back Waist Length		17½	17¼	17¾	17½	17¾	17¾	17¾	18
Women's Petite Back Waist Length		16½	16¼	16¾	16½	16¾	16¾	16¾	17

CENTIMETERS

Girls'/Girls' Plus—For growing girls who have not yet begun to mature.

Girls' Plus are designed for girls over the average weight for their age and height.

Sizes	Girls'					Girls' Plus				
	7	8	10	12	14	8½	10½	12½	14½	16½
Chest	66	69	73	76	81	76	80	84	88	92
Waist	58	60	62	65	67	71	74	76	79	81
Hips	69	71	76	81	87	84	88	92	96	96
Back Waist Length	29.5	31	32.5	34.5	36	32	34	35.5	37.5	39.5
Approx. Height	127	132	142	149	155	132	142	149	155	161

Misses'/Miss Petite—For well-proportioned, developed figures.

Misses' about 5'5" to 5'6" without shoes. Miss Petite under 5'4" without shoes.

Sizes	4	6	8	10	12	14	16	18	20	22	24	26
Sizes, European	30	32	34	36	38	40	42	44	46	48	50	52
Bust	75	78	80	83	87	92	97	102	107	112	117	122
Waist	56	58	61	64	67	71	76	81	87	94	99	106
Hips-9" below waist	80	83	85	88	92	97	102	107	112	117	122	127
Misses-Back Waist Length	38.5	39.5	40	40.5	41.5	42	42.5	43	44	44	44.5	44.5
Miss Petite-Back Waist Length	36	37	37.5	38	38.5	39.5	40	40.5	41.5	41.5	42	42

Women's/Women's Petite—For larger, more fully mature figures.

Women's about 5'5" to 5'6" without shoes. Women's Petite under 5'4" without shoes.

Sizes	Women's	18W	20W	22W	24W	26W	28W	30W	32W
Women's Petite		36	38	40	42	44	46	48	50
Sizes-European		44	46	48	50	52	54	56	58
Bust		102	107	112	117	122	127	132	137
Waist		84	89	94	99	105	112	118	124
Hip-9" below waist		107	112	117	122	127	132	137	142
Women's Back Waist Length		43	44	44	44.5	45	45	45.5	46
Women's Petite Back Waist Length		40.5	41.5	41.5	42	42	42.5	42.5	43

classic and would look good on either a male or female figure. These sizes are called *unisex*. They are made for figures within the Misses', Men's, Teen-Boys', Boys', and

Girls' size ranges. See 21-4.

Once you know your figure type, you can easily determine your pattern size. All you have to do is measure carefully.

Pattern Sizes and Body Measurements										
INCHES										
Boys' & Teen Boys' —For growing boys and young men who have not reached full adult stature.										
Sizes	7	8	10	12	14	16	18	20		
Chest	26	27	28	30	32	33½	35	36½		
Waist	23	24	25	26	27	28	29	30		
Hip	27	28	29½	31	32½	34	35½	37		
Neck Band	11¾	12	12½	13	13½	14	14½	15		
Approx. Height	48	50	54	58	61	64	66	68		
Shirt Sleeve	22¾	23¼	25	26¼	29	30	31	32		
Men's —For men of average build; about 5'10" without shoes.										
Sizes	32	34	36	38	40	42	44	46	48	50 52
Chest	32	34	36	38	40	42	44	46	48	50 52
Waist	27	28	30	32	34	36	39	42	44	46 48
Hip	34	35	37	39	41	43	45	47	49	51 53
Neck Band	13½	14	14½	15	15½	16	16½	17	17½	18 18½
Shirt Sleeve	31	32	32	33	33	34	34	35	35	36 36
CENTIMETERS										
Boys' & Teen Boys' —For growing boys and young men who have not reached full adult stature.										
Sizes	7	8	10	12	14	16	18	20		
Chest	66	69	71	76	81	85	89	93		
Waist	58	61	64	66	69	71	74	75		
Hip	69	71	75	79	83	87	90	94		
Neck Band	30	31	32	33	34.5	35.5	37	38		
Approx. Height	122	127	137	147	155	163	168	173		
Shirt Sleeve	57	59	64	68	74	76	79	81		
Men's —For men of average build; about 5'10" without shoes.										
Sizes	32	34	36	38	40	42	44	46	48	50 52
Sizes-European	42	44	46	48	50	52	54	56	58	60 62
Chest	82	87	92	97	102	107	112	117	122	127 132
Waist	66	71	76	81	87	92	99	107	112	117 122
Hip	84	89	94	99	104	109	114	119	124	130 135
Neck Band	34.5	35.5	37	38	39.5	40.5	42	43	44.5	45.5 47
Shirt Sleeve	78.5	81	81	84	84	87	87	89	89	91.5 91.5
INCHES										
Unisex —For figures within Misses', Men's, Teen-Boys', Boys' and Girls' size ranges.										
Sizes	XXS	XS	S	M	L	XL	XXL			
Chest/Bust	28-29	30-32	34-36	38-40	42-44	46-48	50-52			
Hip	29-30	31-32½	35-37	39-41	43-45	47-49	51-53			
CENTIMETERS										
Unisex —For figures within Misses', Men's, Teen-Boys', Boys' and Girls' size ranges.										
Sizes	XXS	XS	S	M	L	XL	XXL			
Chest/Bust	71-74	76-81	87-92	97-102	107-112	117-122	127-132			
Hip	74-76	79-83	89-94	99-104	109-114	119-124	130-135			

21-4 Pattern sizes and body measurements for males and unisex sizes.

BODY MEASUREMENTS

Body measurements are the actual dimensions of your body. They should be taken over your smooth undergarments or a well-fitting garment. Remove any bulky garments, sweaters, or belts. You may want to have a friend measure you. Stand or sit erect and still. The tape measure should be snug, but not tight. Measure each area twice to insure accuracy.

Make a chart of your own to record your measurements. You will use the chart later to make any needed adjustments on your pattern. It will also be helpful when you select patterns in the future.

Measuring females

Measure the body as in 21-5.

Height. Figure types are based on measurements without shoes. Stand against a wall. Mark height of head lightly on wall. Measure from mark to floor.

Back Waist Length. Measure from the bone you can feel at the center back neck base to your waistline.

High Bust. Bring the tape straight across the back, directly under the arms and above the bust.

Bust. Measure across the fullest part of the bust and straight across the back at the tips of the shoulder blades.

Waist. Tie a string around the smallest part of your midsection. Then bend over from side to side. The string will fall at your natural waistline. Measure over this string.

Hips. Measure around the fullest or largest part of the body.

Listed below are some measurements that you may not find on pattern size charts. They can help you make a garment that fits well and makes you look good. By

comparing them with the same areas on pattern pieces, you will see what, if any, alterations you will need to make. (Remember that pattern pieces are slightly larger than body measurements so you can move comfortably in your clothes.) Alterations should be done before cutting your fabric. You will save time and get a better fit by altering patterns instead of garments.

Front Waist Length. Measure from base of neck to waistline.

Shoulder to Bust. Measure from center of shoulder to highest point of bust.

Shoulder Length. Measure from base of neck below ear to tip of shoulder. This is the length of the shoulder seam.

Back Width. With the tape 4 to 5 inches (10 to 12.5 cm) (depending on figure type) below base of neck, measure the distance from armhole to armhole.

Arm Length. Measure from shoulder bone to wristbone, over slightly bent elbow.

Shoulder to Elbow. Measure from end of shoulder to middle of slightly bent elbow.

Upper Arm. Measure around arm at fullest part between the shoulder and elbow.

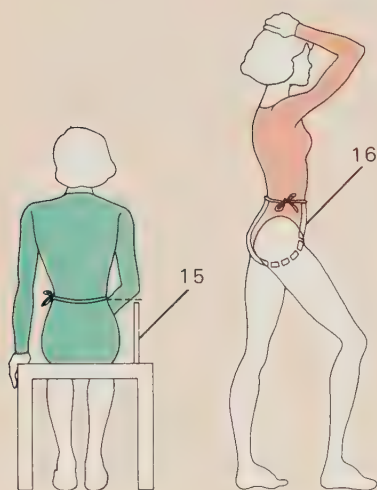
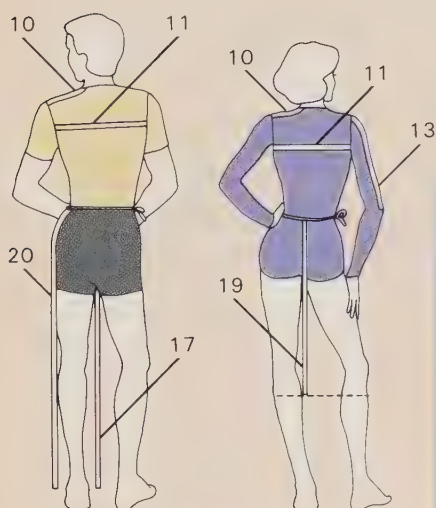
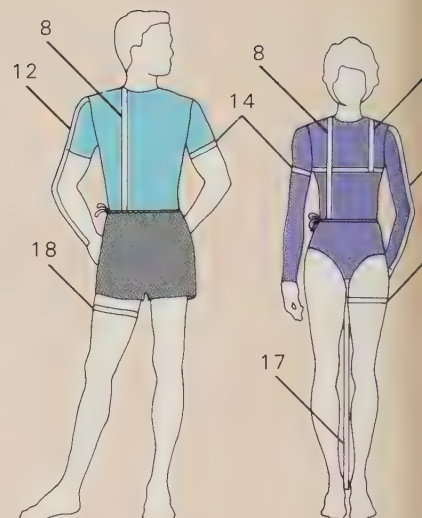
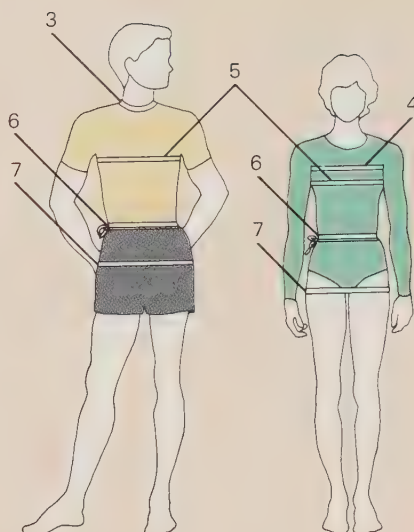
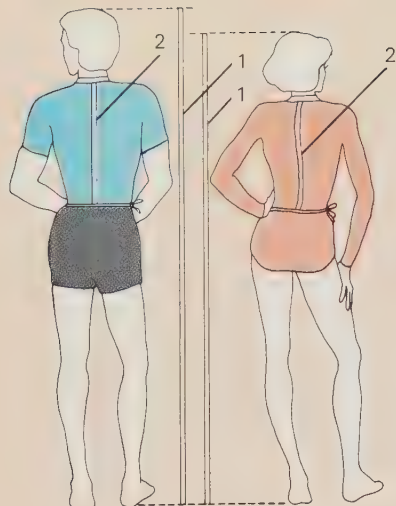
Crotch Depth. Measure from side waist to chair. (Sit on a flat chair and use a ruler.)

Crotch Length. Measure from center back waist between the legs to center front waist.

Inseam Length: Measure the inseam of the leg to the desired length. You could also measure the inseam of a pair of your pants that fit well to get this measurement.

Thigh. Measure around the fullest part.

Back Skirt Length. Measure from the string around the waist at the center back to the desired length. Remember to allow for the hem when you are comparing measurements on your pattern.



1. Height (without shoes)
2. Back Waist Length—from prominent bone at back neck base to waist
3. Neck (males only)—at the Adam's apple. Add 1/2" (1.3 cm) to neck body measurement. This measurement is now the same as ready-to-wear collar size.
4. High Bust (female only)—directly under the arms, above the bust and around the back
5. Bust/Chest—around the fullest part
6. Waist—over the string
7. Hips/Seat—around the fullest part. At these distances below waist: Misses' and Women's—9" (23 cm), Miss Petite, Women's Petite, and Teen-Boys'—7" (18 cm), Men—8" (20.5 cm), Girls'—5 1/2 to 7" (14 cm to 18 cm), Boys' 6" (15 cm).
8. Front Waist Length—from shoulder at neck base to waist (over bust point on females)
9. Shoulder to Bust (females only)—from shoulder at neck base to bust point
10. Shoulder Length—from neck base to shoulder bone

11. Back Width—across the midback. At these distances below neck base: Miss Petite, Misses, Women and Women Petite—5" (12.5 cm), Men—6" (15 cm), Teen-Boys'—4 1/2" (11.5 cm), Girls' and Boys'—4" (10 cm)
12. Arm Length—from shoulder bone to wristbone over slightly bent elbow
13. Shoulder to elbow (female only)—from end of shoulder to middle of slightly bent elbow
14. Upper Arm—around arm at fullest part between shoulder and elbow
15. Crotch Depth—from side to side. Sit on a hard, flat chair and use a straight ruler.
16. Crotch Length—from center back waist, between legs, to center front waist
17. Inseam Length—from crotch to desired length
18. Thigh—around the fullest part

Garment measurements that are nice to have:

19. Back Skirt Length (females)—from center back at waist to desired length
20. Pants Side Length—from side waistline to desired length along outside of leg.

COURTESY OF SIMPLICITY PATTERN COMPANY, INC.

21-5 In order to sew well-fitted garments, you need to take accurate measurements.

Measuring males

Measure the body as in 21-5.

Height. Stand tall, without shoes, against a wall. Put a ruler on top of the head. Lightly mark position on wall. Measure the distance between the mark and the floor.

Back Waist Length. Measure from the bone you can feel at the center back neck base to your waistline.

Neck. Measure around the neck at the Adam's apple. Add 1/2 inch (1.3 cm) to the neck measurement. This is the shirt neck size. It is also a ready-to-wear shirt measurement.

Chest. Measure around the fullest or largest part of the chest.

Waist. Tie a string around the waist over a shirt. Be sure to measure at the exact waistline as this determines size.

Hips (Seat). Measure around the fullest part of the seat — about 7 inches (18 cm) below the waistline for Teen-Boys' and 8 inches (20.5 cm) for Men's.

Front Waist Length. Measure from base of neck to waistline.

Shoulder Length. Measure from base of neck below ear to tip of shoulder. This is the length of the shoulder seam.

Back Width. With the tape 4 to 5 inches (10 to 12.5 cm) (depending on figure type) below base of neck, measure the distance from armhole to armhole.

Arm Length. Measure from the large bone at the back of your neck along the shoulder, over bent elbow down to the wrist bone. This is also a ready-to-wear shirt measurement.

Upper Arm. Measure around arm at fullest part between the shoulder and elbow.

Crotch Depth. Measure from side waist to chair. (Sit on a flat chair and use a ruler.)

Crotch Length. Measure from center back waist between the legs to center front waist.

Inseam Length. Measure the inseam of the leg to the desired length. You could also measure the inseam of a pair of your pants that fit well to get this measurement.

Thigh. Measure around the fullest part.

Pants Side Length. Measure from the natural waistline down the outside of the leg to the desired length.

SELECTING A PATTERN THAT FITS

Now you are ready to choose patterns that will fit you. You have determined your figure type and have taken your body measurements. Compare your measurements to the pattern measurements listed under your figure type. (Refer back to 21-3 or 21-4.)

For females, the bust is the most important measurement when choosing a pattern for a blouse, dress, or jacket. Girls should look for the size with the bust measurement closest to their own if they do not fit any group exactly. Waist and hip sections of a pattern are easier to alter than shoulder and bust darts. The pattern will lose its original look if too many alterations are made.

The hip measurement is more important than the waist measurement in selecting patterns for skirts, slacks, and shorts. Waistlines are fairly easy to adjust. Therefore, select your pattern by the hip measurement.

Pattern sizes for Boys', Teen-Boys', and Men's are different. For slacks or shorts, buy your pattern by the waist measurement. For shirts, use the neck measurement.

Sport coats and vests should be bought by chest size. For a snug fit, pick a smaller

size; for a looser fit, a larger one. Some young men might prefer a closer fit while older men might prefer extra room.

Unisex patterns are selected by the chest, bust, or hip measurement and sized for a looser fit than female and male patterns. If you prefer more fit you might select a smaller unisex size. Likewise, if you prefer more room or an extremely baggy look, you might choose a larger unisex size.

Some patterns are multi-sized. These patterns help you if your measurements fit more than one size. The cutting line is selected for the size that fits your body.

Pattern ease

You could not wear slacks that measure exactly the same as your body. When you measure the hip section of a pattern, you

will find it to be from two to three inches larger than the hip measurement listed on the pattern. This extra room is called *pattern ease*. It is planned so your clothes will be comfortable. Ease is important and is in both men's and women's patterns. Without ease, garments would be too tight, uncomfortable, and unattractive.

Ease varies from measurement to measurement. The waist needs only a little ease. Hips needs more, and the bust or chest needs most.

Patterns designed for knitted fabrics only, have less ease allowance than other patterns. Some "give" is supplied by the fabric itself. A regular amount of ease would be too much. Besides, knitted garments are usually worn closer to the body than garments made of woven fabrics. This is true of both male and female patterns.



BUTTERICK COMPANY, INC.

These vests were made from a unisex sized pattern. Unisex styles are designed and sized to look good on either males or females.

to know

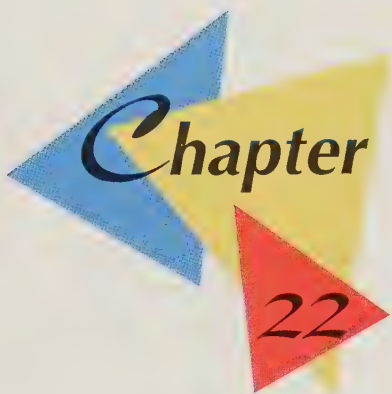
body measurements pattern ease
figure types standard sizes

to review

1. List five terms used to identify pattern figure types.
2. How are figure types determined?
3. All brands of patterns follow the same measurements for the same size. Ready-to-wear garments do not. Why not?
4. What is the correct method of measuring height? Waistline?
5. What are the advantages of altering a pattern to fit rather than altering the garment?
6. How is shirt neck size determined for men and boys?
7. Why should girls select patterns closest to their bust size?
8. By what measurement are men's slacks bought?
9. Describe why pattern ease is necessary.
10. Explain why accurate body measurements are necessary before selecting patterns.

to do

1. Select a partner and measure each other. Make two measurements in the same place to assure accuracy. Record on a personal measurement chart you have made.
2. Bring ready-made garments to class. Measure in same areas as your body measurements. Compare and decide amount of ease allowed.
3. Measure pattern pieces and corresponding areas of ready-made garments of the same size. How much difference do you find?
4. Make an over-sized chart of how-to-measure for males and females. Display it on a bulletin board.
5. Compare two patterns of the same size — one designed for knitted fabrics only and one designed for woven fabrics. (Make sure the styles are somewhat alike.) How much difference in ease allowance do you find?



Looking at Patterns

After studying this chapter you will be able to

- describe the different sections of a pattern catalog.
- identify the parts of a pattern and describe the purpose of each.
- choose a pattern according to your interests and skills.
- distinguish between a simple pattern and a more difficult pattern.

The pattern catalog and your pattern give you ideas about styles, fashions, possible fabrics, and accessories. With the help of your pattern, you can buy your supplies and cut, mark, and sew your garment successfully.

PATTERN CATALOGS

Your first look at *pattern catalogs* may surprise you. They are huge! Each of the major pattern companies has its own catalogs. They are all similar in format and size, but the patterns are different. If you look through all of them, you will surely find the pattern you want, 22-1.

Many popular patterns remain in the catalogs for months or even years. Others that do not sell well are dropped. Four major catalog issues come out each year, but new patterns are introduced monthly.

Stores receive the catalogs many weeks ahead of the date shown on the cover. This gives people who make their own clothes time to complete them for the coming season. For instance, the catalog for winter holiday fashions appears on the counters

in September. By the middle of January, the spring issue is available.

In 22-2, the format of a typical catalog is shown. The tabs at the right tell you what is in each of the sections. Although the book is large, you are interested in only a few sections of it.

Inside the pattern catalog

Few people use all the benefits of a pattern catalog. It offers much more than pattern choices. Suppose that you already know your pattern number, but you want to see it illustrated. You can find it listed in the *pattern index*. This is in the back of the book next to the cover. All patterns are listed by number. The page numbers are also given, so you can find your pattern easily.



22-1 Tables, chairs, and counters are provided in many pattern departments. The search for just the right pattern is often time-consuming.



22-2 The patterns in pattern catalogs are divided into many sections. This helps you find the type of pattern you want quickly.

Many photographs and detailed drawings are shown in the catalog. They give you ideas for garment variations and possible fabrics, 22-3. The sources for the fabrics shown are listed on the *fabric and accessory page* in the back of the book. These fabrics are available in retail stores. If you would really like to have the fabric that is shown, you can write to the fabric resource listed on this page. You will receive a list of stores in your area that sell it.

All outfits shown in the catalog are accessorized. Nationally available merchandise is used. Home sewers see how outfits can be completed. The sources of all accessories (hats, purses, shoes, jewelry, scarves, belts, and trims) are listed on the fabric and accessory page.



COURTESY OF THE SIMPLICITY PATTERN COMPANY

22-3 Photographs like this often appear in pattern books. They give you ideas of possible fabrics you might use.

The garment sketches in pattern catalogs show you the shape, or form of the garment. This helps you better determine if a particular style is good for you. The sketches also often show textures, colors, or designs that would look good in the garment, 22-4.

A *measurement page* is also in the back of the catalogs. Here all of the charts for different pattern sizes are shown. Illustrations show how to take body measurements correctly. If you are not sure which pattern size to buy, this is the place to look.

UNDERSTANDING YOUR PATTERN

A *pattern* is to someone making a garment what a blueprint is to someone building a house. It shows the “what,”



THE MCCALL PATTERN COMPANY

22-4 These blouse sketches were made by graphic artists at the pattern company. They will be used in the pattern catalog or for the pattern envelope.

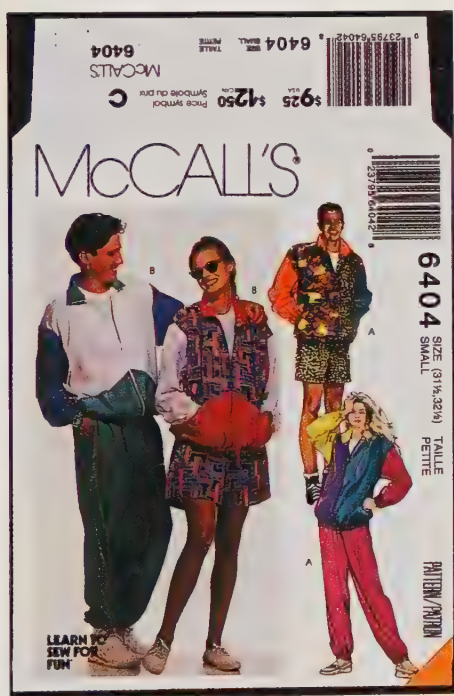
“when,” and “how.” As in a blueprint, a basic plan is given. This helps you build or put together a successful finished product — a garment. Take good care of your pattern. You may want to use it again and again.

Most stores will not let you return or exchange patterns. Study the pattern in the counter pattern book until you are certain it is the one you want. If they do not have the size you need, select another pattern, or look for it in another store. You want your garment to fit.

Your pattern has three main parts — the envelope, the cutting and sewing instruction sheet, and the tissue pattern pieces. Each part has helpful information.

Pattern envelope

The front of the envelope shows the brand or company name, the pattern number, figure type, size, and price. A sketch and sometimes a photograph of the garment you plan to make are also shown, 22-5. You often see more than one view, as in 22-6. These views give you an idea of different fabrics, designs, and details that can be used. For instance, a shirt pattern



THE McCALL PATTERN COMPANY

22-5 The front of a pattern envelope can give you important information as well as show you what the finished garment should look like.

9057

SIZE A XXS-XL
EUR. TTP-TG



BIN 33

It's SO EASY
it's Simplicity



COURTESY OF THE SIMPLICITY PATTERN COMPANY

22-6 Pattern envelopes sometimes show photographs of garments for guys and girls that can be made from the same pattern. These shorts could be a fun project for beginning sewers.

may show long sleeves, short sleeves, and no sleeves; collar and no collar. You can choose the combination you prefer. Most of the information on the envelope front is also shown in the catalog. You will have made some decisions before you ask for your pattern.

The pattern illustration can help you decide a fabric design to buy. If a garment is shown in a stripe or plaid, it means you can use that fabric design if you wish. Suppose you wish to use a stripe and the picture does not show stripes. Look on the back of the envelope. Any fabrics and designs that are not suitable will be listed, along with a list of suggested fabrics.

Part of the back of your pattern envelope deals with the amount of fabric you need to make the garments. Usually, the width of your fabric is listed so you can easily find the length you need. If your fabric width

is not listed, use a *conversion chart* like the one in 22-7.

Many other kinds of information are also found on the back of the envelope. See 22-8. If your pattern requires lining or interfacing, the amount needed is listed. Standard body measurements are also given. They can be used as a reference if you make pattern adjustments for your body shape. The information on the back of the pattern envelope also includes the notions you need to complete your garment. They are listed under *notions* or *supplies needed*. The size and amount needed of each notion are also listed. Read this information carefully to make sure you buy the correct notions.

Cutting and sewing guide sheet

In your pattern envelope, you will find one or more printed sheets. These *cutting*

CONVERSION CHART FOR DIFFERENT WIDTHS OF FABRICS					
FABRIC WIDTH	35"—36"	39"—42"	44"—45"	52"—54"	58"—60"
YARDAGE	1—3/4	1—1/2	1—3/8	1—1/8	1
	2	1—3/4	1—5/8	1—3/8	1—1/4
	2—1/4	2	1—3/4	1—1/2	1—3/8
	2—1/2	2—1/4	2—1/8	1—3/4	1—5/8
	2—7/8	2—1/2	2—1/4	1—7/8	1—3/4
	3—1/8	2—3/4	2—1/2	2	1—7/8
	3—3/8	2—7/8	2—3/4	2—1/4	2
	3—3/4	3—1/8	2—7/8	2—3/8	2—1/2
	4—1/4	3—3/8	3—1/8	2—5/8	2—3/8
	4—1/2	3—5/8	3—3/8	2—3/4	2—5/8
	4—3/4	3—7/8	3—5/8	2—7/8	2—3/4
	5	4—1/8	3—7/8	3—1/8	2—7/8

22-7 If your fabric is narrower or wider than your pattern shows, this chart can help you select the amount you need to buy. For example, if your pattern envelope calls for 1 3/4 yard of 36-inch fabric and your chosen fabric is 60 inches wide, you will need only 1 yard.

7757
8 PIECES

1 MISSES', MEN'S OR TEEN-BOYS' LOOSE-FITTING UNLINED JACKET: Jacket with notched collar has front button closure, patch pockets and long sleeves (wrong side of fabric will show when sleeves are rolled up)

2
3 Fabrics—Baby cord, broadcloth, chambray, muslin, oxford cloth, sheeting, dress weight linen, flannel, gabardine Extra fabric needed to match plaids, stripes or one way design fabrics. For pile, shaded or one way design fabrics, use with nap yardages/layouts. Not suitable for obvious diagonals

4
5 SUPPLIES NEEDED: Thread, seam tape or stretch lace, one 7/8" button, set-in type shoulder pads 1/2" thick, bent handle shears, scissors, dressmaker's silk pins, needles, seam ripper, dressmaker's chalk pencil, ruler, tissue paper for pattern adjustments

6
7 BODY MEASUREMENTS
Chest or Bust 29 31 1/2 32 34 35 36 1/2 38 40 42 44 Ins.

8 Jacket
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and sewing guide sheets give detailed instructions on how to make your garment. You will want to keep them handy as you work. See 22-9. On the first page are suggested fabric and cutting layouts, explanations of marking symbols, and a few basic sewing instructions. Metric charts are provided on some guide sheets to help you convert inches and yards to centimeters and meters.

Also on the first page you will find line drawings of all the pattern pieces. Each piece will have a letter or number on it. This makes it easier to identify the pieces needed for the view you are making.

The next section usually includes an explanation of some terms you will find in the guide sheet. The terms grade, press, edgestitch, topstitch, easestitch, and stay-stitch are often included. A fabric key is also included. It explains what the various shadings on the guide sheet mean. They show the different layers of fabric and the printed and reversed sides of pattern pieces. Illustrations of different hemming stitches and seam finishes can also be found.

A pattern markings section explains the symbols used on pattern pieces such as seamlines, seam allowances, grainlines, notches, and dots. Another section shows how to lengthen or shorten pattern pieces for a proper fit.

Cutting layouts show you how to correctly place the pattern pieces on your fabric. Layouts are given for different views and sizes. They are also given for various widths of fabrics and fabrics with a nap. Find the layout for your garment and draw a circle around it. Often there are special notes in the cutting layout section to make cutting and marking easier. Be sure to read these carefully before you begin.



BUTTERICK COMPANY, INC.

22-9 *Your guide sheet gives step-by-step directions for making your garment. Sketches are shown to help you understand procedures.*

The sewing instructions section takes you step-by-step through the process of making your garment. Each part should be completed before going on to the next. It will make the construction of your garment easier if you read through all the steps before you begin sewing. You will have a better idea of what must be done and how it will be done.

Pattern pieces

Inside your pattern envelope you will also find the pattern pieces needed to make your garment. Pattern pieces are made of tissue paper. Handle them carefully so they do not tear. Select the pieces you need for your garment. Refold the others, and put them in the envelope. You may want to fold each piece so its name (such as “shirt front”) shows. Later, you will be able to locate the pieces you want easily.

Look at a pattern piece. You will see terms and markings that you may not know. Many of them are explained on the front of your cutting and sewing direction sheet. Understanding these symbols will help you avoid costly mistakes. They help you cut, mark, and sew correctly.

The pattern number, size, view number, name of piece, and identification letter are listed on each pattern piece. In addition, many symbols are used. See 22-10. The bold outline around each piece is the *cutting line*. Just inside the cutting line is a

broken line which represents the *stitching line*. Arrows are found on some stitching lines. If you stitch in the direction they point, you will not stretch or pucker the fabric grain.

The *grain line* is marked by a heavy line with arrows on both ends. This helps you get your pattern straight on your fabric. When you measure from the tip of both arrows to the edge of your fabric, the two distances should be the same.

Adjustment lines show you where to shorten or lengthen the pattern piece.

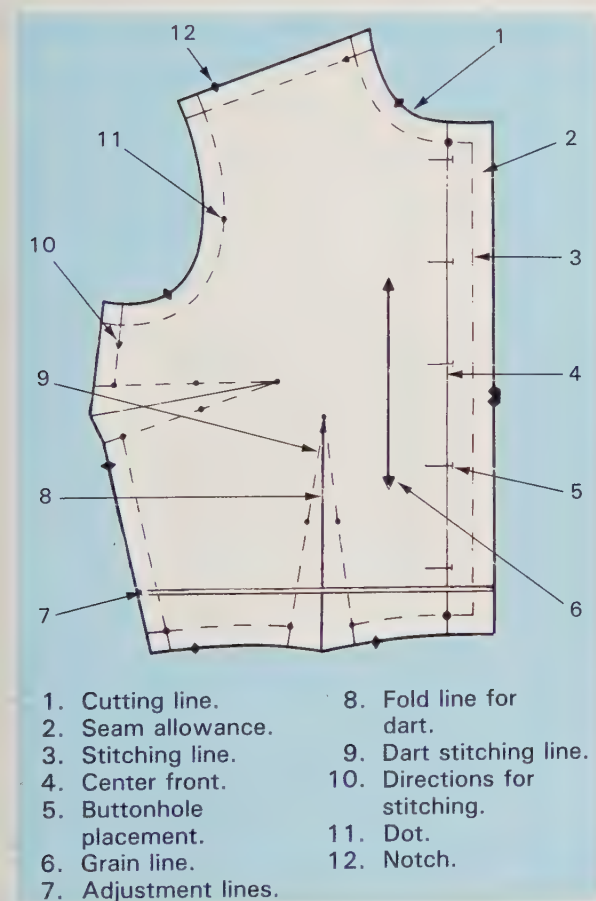
Thin, solid lines are used to indicate center fold lines, hemlines, and placements for pockets or trims that go on the outside of the garment.

Notches are the diamond-shaped symbols along and beyond the cutting line. They help you join pieces together at the right place. *Dots* are also aids for matching seams and other construction details.

Choosing your pattern

Your teacher may decide that everyone in the class should make the same item for his or her first project. If your class is large, this can help hasten your progress. You will be able to work with your friends on the same steps or problems. You can individualize your project by choosing unique fabric and trim.

If you are allowed to choose your own pattern, you will need to find one that is right for you. There are several factors to consider when doing this. The pattern should be one that meets your sewing skill level. It should be for a garment that fits into your wardrobe and goes with other garments you already have. It should flatter your body shape. You should also choose a garment you will enjoy making.



22-10 Pattern symbols are found on each pattern piece. Symbols help you cut, mark, and sew correctly.

If you have very little sewing experience, you will want to choose a pattern that is fairly simple. A garment made using a simple pattern can also be made in less time than a more complex pattern. The following terms are used to identify simple patterns: Jiffy, Simple-to-Sew, For Beginners, and Step-by-Step. Generally, these patterns have few pieces, and they fit loosely. They do not have pleats, curved yokes, collars, or pockets. You could begin with a simple project like making a pillow, cafe curtains, or a school banner for your room. Sewing straight lines can be easy. If you already have some sewing experience, you may wish to choose a more complex pattern with details you have not made before. This can increase your knowledge of sewing skills and techniques.

You may decide to use a kit to make your first project. Kits come with all the

materials needed to complete a project along with step-by-step instructions. Sweat shirts, shorts, pillows, and stuffed animals are all available in kit form. You can choose a kit that is at your sewing skill level and teaches you new techniques as you progress.

If you choose your own pattern, consider what you need. Do you need new sweats? Could you use a new pair of pull-on pants? Do you need a new sweat shirt to go with your jeans? Making a garment will be more fun if you know that you need it in your wardrobe.

If making a decision is a problem, visit a clothing store and look at ready-to-wear garments. Try on several garments in the style you think you like. Is the style flattering to your figure type? Do the colors look good on you? Would you like to make your garment over-sized or more fitted?



TO SEW

22-11 Simple tops and shorts are a good project for first-time sewers. It would be fun to make and accessorize hats to match!

Making these decisions will help you enjoy your sewing project more.

If you can finish your first project quickly and without problems, you will probably learn to enjoy sewing. You will have fun and be proud of your finished product. Then you can go on to make more difficult garments. A simple pattern design is shown in 22-11.

Even if your first garment is a success, you may decide that you would not like to make all of your clothes. Your sewing skills and knowledge will still be helpful to you. You will be able to select ready-to-wear garments more intelligently, 22-12. Later, when you cannot find the exact garment you want, or when you want to save money, you may decide to try sewing again, 22-13. Sweats could be just what you need for track practice. You could make one like those shown in 22-14. You could choose fabrics in your school colors. The project would be fairly simple, and you could save money.

22-12 Although manufacturers try to produce well-made garments, sometimes a mistake is made. As a smart shopper, inspect garments carefully before you buy them. Report any imperfections to a salesperson.



PELLON, DIV. OF FREUDENBERG NONWOVENS

22-13 As you gain experience, your sewing skills will improve. Then you can choose more challenging patterns and fabrics. Your choices will be unlimited.



HAAN, CRAFTS

22-14 You can use your sewing skills to make sweats in the exact colors and details that you want. The pattern illustration can help you decide a fabric design to buy.

to know

adjustment lines	grain line
conversion chart	measurement page
cutting and sewing	notches
guide sheet	pattern
cutting layouts	pattern catalogs
cutting line	pattern index
dots	stitching line
fabric and	
accessory page	

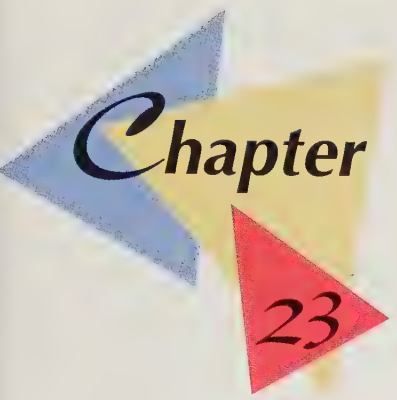
to review

1. Why are actual photographs shown in pattern catalogs?
2. In looking for a pattern, you may have forgotten your figure type classification although you remember your measurements. How could you use the pattern catalog to solve your problem?
3. List four things you can learn by looking at the front of the pattern envelope.
4. Where can you find suggestions for the type of fabric to use with your pattern?
5. What directions are given in the cutting layouts section of the cutting and sewing guide sheet?
6. Why should you read through all the steps of the sewing instructions section before you begin sewing?
7. List eight symbols or markings found on pattern pieces.
8. Explain the advantages of using the same pattern as other students in your class.
9. List four terms that identify simple patterns.

10. Name three features of simple patterns.
11. How can your sewing skills help you in the future?

to do

1. Ask salespersons or department managers to save old pattern catalogs for use in the classroom, as new ones arrive. Divide into groups according to number of pattern catalogs available. Become familiar with format and all sections.
2. Collect pictures of garments or items that would be easy first projects to sew. Arrange on bulletin board.
3. Select patterns for guys and girls from pattern books. Make a display using a "Now" caption for beginning projects and a "Later" caption for more difficult patterns.
4. List ideas to individualize a basic pattern. Compare lists.
5. Using sample pattern envelopes from the family and consumer sciences department, make an arrangement on the bulletin board. Select fabric samples to go with each pattern.
6. Select a photograph of a pattern from the catalog you feel fits your personality. Write a paragraph explaining type of fabric to use and suggest accessories. Give reasons for your selections.
7. Draw oversize pattern pieces. Add markings, symbols, and identification words. Make an attractive bulletin board.
8. Write a skit of a poorly prepared student buying fabric and notions from poorly informed salesperson. Perform it for the class. Discuss what students need to know before going to the store.



Chapter

23

Sewing Skills

After studying this chapter you will be able to

- check the grain of fabric and prepare fabric for cutting and sewing.
- lay out a pattern and properly pin it to fabric.
- cut out a garment.
- transfer pattern markings to fabric using an approved method.
- operate the sewing machine properly.
- construct darts and seams.
- apply various seam finishes to seams.
- demonstrate how to trim, grade, and clip seams.
- describe how to apply facings and interfacings.
- identify various types of fasteners and zippers and describe how to apply them.
- mark, finish, and secure a hem.
- describe pressing techniques.

The more you know about something, the more at ease you feel working with it. This is true if you are caring for children, playing baseball, talking before a group, or sewing a garment.

Sewing is a complex task. But the more you know about it, the easier it seems. By learning about fabrics, patterns, equipment, and basic sewing techniques, you will avoid frustration and mistakes. Instead, you will enjoy sewing and will have success with your projects.

This chapter explains many general sewing techniques. The guide sheet of your pattern gives step-by-step directions for your specific garment. Together, they tell you all you need to know to make your sewing project a success.

FABRIC GRAIN

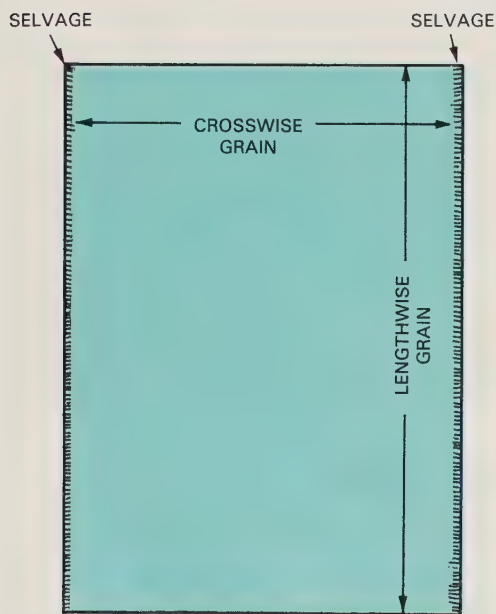
Woven fabrics have two sets of yarns — warp and filling. (See Chapter 19 for a review of warp and filling yarns.) The direction they run is called *grain*. The warp yarns run in the *lengthwise grain*. An easy way to find the lengthwise grain is to look

for the *selvages* of the fabric. (The selvages are the smooth, closely-woven edges that do not ravel.) The lengthwise grain runs in the same direction as the selvages. See 23-1. When your pattern refers to “straight grain” or “grain line,” it means the lengthwise grain.

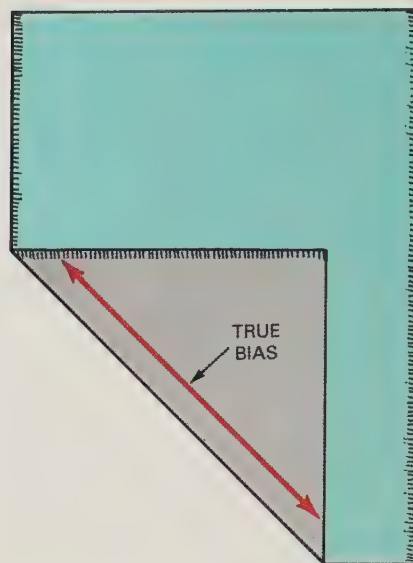
The filling yarns run straight across the fabric from one selvage to the other. This is the *crosswise grain* of the fabric.

The other fabric grain is *bias grain*. This runs diagonally across the fabric. *True bias* runs at a 45 degree angle, as shown in 23-2. It allows the greatest amount of stretch in a woven fabric. To find the true bias, pick up a corner of the fabric. Fold it so that the cut edge is parallel to the selvage.

The grain in knitted fabrics is slightly different. Instead of two sets of yarns, these fabrics have rows of loops in two direc-



23-1 The lengthwise grain runs parallel to the selvages. The crosswise grain runs between selvages.



23-2 The true bias runs at a 45 degree angle across the fabric.

tions. The rows of loops running the length of the fabric form the lengthwise grain. The rows of loops running across the fabric form the crosswise grain. In knitted fabrics, the crosswise grain allows the most stretch.

Checking the grain

If the fabric is *off-grain* or crooked, it is difficult to handle. It will not lie flat as you cut out the pattern pieces. The finished garment will twist, pull to one side, and hang unevenly. The fabric grain must be straight to make a garment look right.

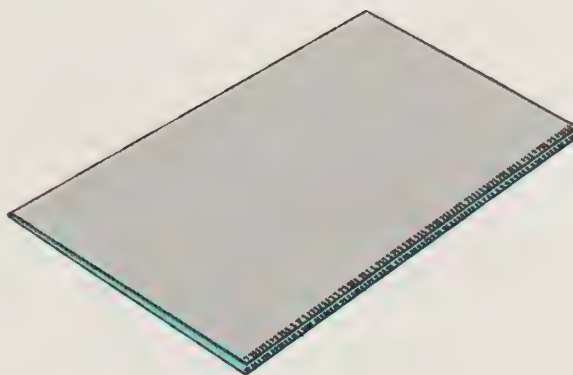
The first step in checking the grain is to straighten the cut edges. You may be able to see one of the filling yarns clearly enough to cut along it. If not, clip through the selvage near the cut edge. Inside the clip, pick up one filling yarn and pull it gently. With your other hand, push the fabric along the pulled yarn as shown in 23-3. This leaves a straight, open line that you can use

as a cutting line. If the yarn breaks in the middle of the fabric, cut as far as you can see the open line. Pick up the yarn and pull it again. Continue until you have cut all the way across the fabric.

Some firmly-woven fabrics can be torn to make the cut edges even. This is risky because the fabric sometimes splits along the lengthwise grain while being torn. If you decide to tear your fabric, clip through the selvages. (They are difficult to tear.) Then tear along the crosswise grain.

Lay the fabric on a large, flat surface. Bring the two selvages together, making a lengthwise fold. If the grain is straight, the fold will be smooth and straight. The selvages will match, and the cut edges on each end will match. The cut edges and the selvages will meet in a right angle. See 23-4.

Suppose the fold is not smooth and straight or that the edges do not match. This could happen if the fabric was twisted



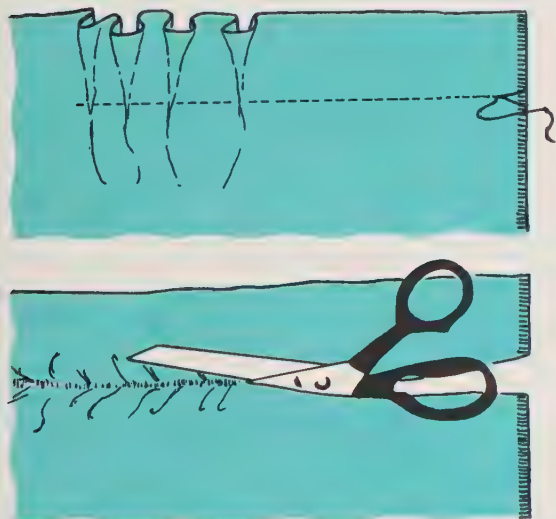
23-4 When the fabric grain is straight, all edges match and the fabric lies flat.

as it was rolled onto bolts. It can be straightened by pulling. Two persons can do this better than one. Hold the two opposite corners that are too short. Pull along the bias. Check often to see if you have pulled enough.

Yarns are sometimes forced off-grain during the finishing process. In durable-press fabrics, chemicals and heat are added to help resist wrinkling. If unevenness occurs during the finishing stage, it is “baked” into the fabric. It will have to be used as is. Pulling the fabric to straighten the grain will not work. It will return to the off-grain shape.

PREPARING THE FABRIC

Many of today’s fabrics are *preshrunk*. This means they were shrunk during manufacturing to help keep them from shrinking during washing or cleaning. Check the label on the end of the bolt when you buy your fabric. If it has not been preshrunk, you would be smart to do it yourself. Then you will be sure that the finished garment will not shrink.



23-3 One way to find the straight crosswise grain is to pull a filling yarn, leaving an open, straight line.

To preshrink your fabric, treat it as if it were the finished garment. If you will machine wash and dry the garment, machine wash and dry the fabric. (You do not need to add detergent.) If you will hand wash the garment and lay it flat to dry, do this to the fabric. If the garment will be dry-cleaned, you may want to dry-clean the fabric.

If your fabric needs *pressing*, do it before you place your pattern pieces on it. Accurate cutting is impossible on wrinkled fabric. Press carefully and thoroughly. Give special attention to the center fold. The crease may be difficult to remove. A damp pressing cloth or a steam iron is often helpful.

Press in the direction of the lengthwise grain. This will keep the fabric grain in line. Fabric stretches very little in the lengthwise direction.

PREPARING THE PATTERN

Remove your pattern pieces from the envelope. Write your name and class period number on the center of each one, on the guide sheet, and on the pattern envelope.

Look at the sketches of the pattern pieces on the guide sheet. Decide which pieces you need for your project. Return the others to the envelope.

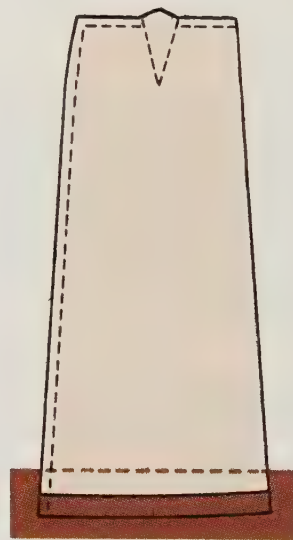
When you look at your pattern pieces, you might see that extra paper surrounds each one. You may want to trim the pattern pieces, but you do not need to do so. As you cut your fabric, any extra paper will be cut off.

If your pattern pieces are badly wrinkled, press them with a dry, warm iron. Be careful not to press tiny wrinkles into each piece.

Altering the pattern

Check your measurements with the chart on the back of the pattern envelope. If they are not the same, you will have to *adjust* or *alter* your pattern. Altering patterns is better than altering finished garments. It is more accurate and assures better fit. A finished garment might not have enough extra fabric to make the needed changes.

Altering the length. The most common adjustments are for length. Most pattern pieces are labeled “lengthen or shorten here” in one or two places. This phrase is often found at the bottom cutting edge of a pattern piece. In this case, *lengthen* the piece by taping a piece of paper to the bottom. Measure the desired amount from the original cutting line. Draw a new line that is parallel to the original. This method is pictured in 23-5.



23-5 To lengthen the bottom edge of a pattern, tape extra paper below the cutting line. Draw a new cutting line that is parallel to the original. Fill in the adjacent seam lines and cutting lines.

To *shorten* the pattern piece at the bottom edge, measure the desired amount up from the original line. Draw a new cutting line that is parallel to the first.

Be sure to lengthen or shorten all pieces the same amount.

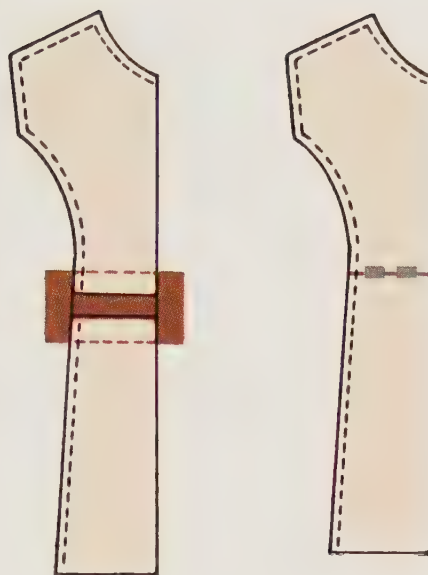
Altering the bottom edge of pattern pieces does not solve all fitting problems. An adjustment in the middle of pattern pieces may be needed instead. Look for two parallel lines that are close together. These are the *adjustment lines*. The phrase, “lengthen or shorten here” will be next to them.

To *lengthen* the pattern piece, cut between the two lines. Place a piece of paper under the pattern. Spread the pattern the needed distance and tape to the paper. Redraw the cutting lines at the sides to form straight lines. See 23-6.

To *shorten* the pattern, measure up from the adjustment line the amount to be shortened. Draw a new line. Fold the pattern at the adjustment line and bring the fold to the newly drawn line. Tape in place and redraw the cutting lines. See 23-6.

Altering the width. It may be necessary to make adjustments in the width of pattern pieces in the waist, hip, or thigh areas. These adjustments should be made in both front and back pieces. If the total amount of the alteration is less than two inches, you can increase or decrease one-fourth the amount needed on each of the side seams. If larger adjustments are needed, you may find a different pattern size to be more appropriate. You might also consult with your teacher or an alterations book for additional adjustment techniques.

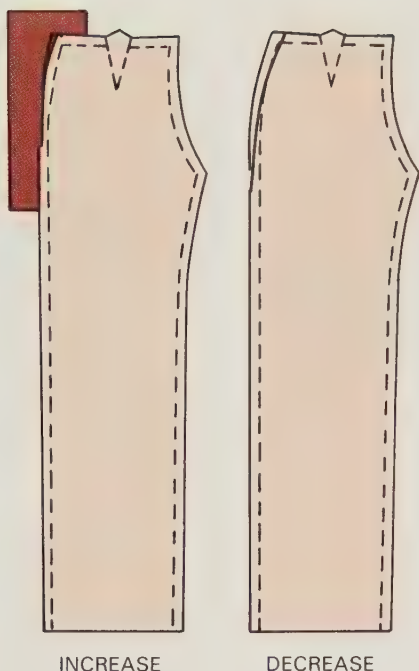
To *increase* the size of a waistline in pants and skirts, tape a strip of paper along the front and back side edges of your pat-



23-6 To lengthen, cut between the adjustment lines and spread the pattern apart. To shorten, fold at the adjustment line and tape.

tern pieces from the waist to the hip. Measure out from the cutting line at the waist one-fourth of the total amount to be added. For instance, if the total alteration is one inch (2.5 cm), add 1/4 inch (.6 cm) to the front and back side seams. Redraw the cutting lines and seam lines, tapering to the hip line. See 23-7. If there is a waistband or waistline facing, make the same amount of adjustment in these pattern pieces. Cut the waistband pattern apart at the side seam markings. Increase each side one-half the amount necessary.

To *decrease* the size of the waistline, measure in one-fourth the needed amount at each side seam. Redraw the cutting and seam lines on the pattern pieces, tapering down to the hipline. If there is a waistband, fold out one-half of the amount of the alteration at the side seam markings and tape in place.



23-7 To increase or decrease the width of the waist, measure in or out one-fourth of the needed amount at the side waistline edge. Redraw the cutting lines, tapering to the hipline.

To *increase* the hip and thigh area of straight skirts and pants, tape a strip of paper to the pattern from the waist to the hemline. At the side hipline, measure out from the cutting line one-fourth of the needed amount on the front and back pieces and make a mark with a pencil. Redraw the cutting and seam lines. To do this, taper the lines upward to the original waistline. Measure out from the hemline the same amount as at the hipline and make a mark. Draw a straight line from the hipline mark to the hemline mark. See 23-8.

To *decrease* the hip and thigh area, measure in from the cutting line at the hipline one-fourth of the total amount needed. Redraw the lines, tapering to the

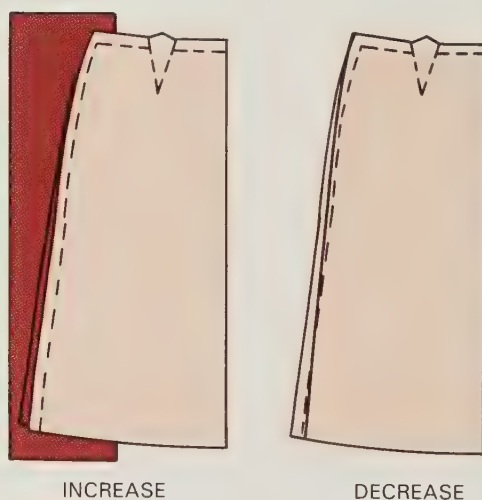
waistline and drawing straight down to the hemline. For pants, some of the width adjustments should be made on the inner leg seams as well as the outer leg seams.

THE PATTERN LAYOUT

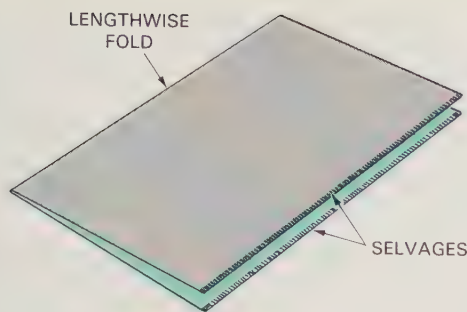
Decide which is the right side of your fabric. Some plain weaves are identical on both sides. In that case, you can use either side, but use the same one for all pattern pieces.

Most fabrics are folded with the right sides together. The fold is usually *lengthwise*, so the two fabric selvages are together. See 23-9.

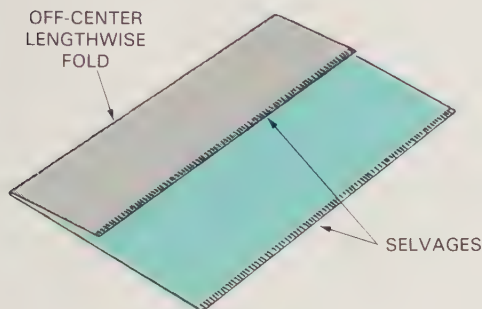
Occasionally, other folds are suggested by the pattern's guide sheet. See 23-10. To make an *off-center lengthwise fold*, fold one selvage toward the other. They should not match, but they should be parallel. One part of the fabric is doubled. The other part



23-8 To increase or decrease the width of the hips, measure in or out one-fourth of the needed amount at the side hipline. Redraw the cutting lines, tapering to the waist and extending down to the hemline.



23-9 Most pattern layouts call for a lengthwise fold in the center of the fabric.

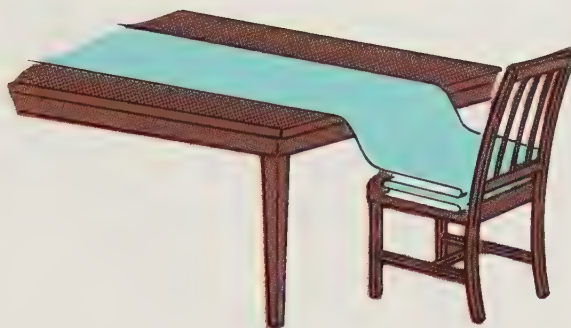


23-10 Some layouts suggest an off-center lengthwise fold.

is single thickness. For a *crosswise fold*, place the cut edges together and match them. A *bias fold* runs diagonally across the fabric. The selvage is folded so it is parallel to the crosswise grain.

Your fabric may be longer than the table you are using. If so, let one end rest in a chair, as shown in 23-11. This prevents strain on the fabric and keeps it from sliding off the table.

The guide sheet of your pattern suggests many *layouts*, as shown in 23-12. They show you how to lay your pattern pieces on your fabric. Find the one that matches your pattern size, project, and fabric width. Draw a circle around it so you can refer to it easily.



23-11 Let extra fabric rest on a chair while you work. This reduces the pull on the fabric.

Most pattern pieces are placed on the fabric with the printed side up. These are white on the cutting layouts. A shaded piece is to be placed printed side down.

Most pieces need to be cut twice. This is why the fabric is doubled before cutting. But check each piece. Some are labeled, “cut one,” or “cut four.”

Lay all pattern pieces on the fabric before you begin to cut. This will assure you that you have enough fabric.

A pattern piece may extend beyond the edge of the fabric in the cutting layout. In this case, cut the other pieces first. Then unfold the fabric to a single thickness and cut that piece.

PINNING

Before you start to pin the pattern to the fabric, check the points in 23-13. Then begin working with the large pieces at one end of the fabric.

Look for the *grain line* on each piece. If the pattern piece is to be placed on a fold, you will see a line with a bending arrow at both ends, as in 23-14. The arrows point toward one edge of the pattern piece. Place

Disregard any perforations on tissue pattern pieces.

cutting layouts

key: black is fabric. grey is pattern printed side down. white is pattern printed side up. solid outline is fabric cut without a pattern piece.

(The metric equivalent is in parenthesis)

GENERAL NOTE: When pattern pieces extend beyond fold of fabric, cut out all pieces except pieces that extend; then open out fabric and on single thickness, cut extending pieces on right side of fabric in position shown.

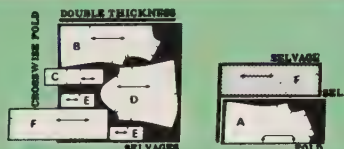
view 1 view 2

blouse and scarf

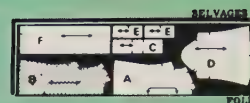
35" 36" (90cm) fabric without nap
sizes 8, 10
NOTE: Cut one C.



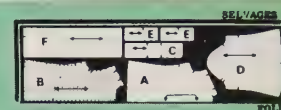
35" 36" (90cm) fabric without nap
sizes 12, 14, 16, 18



44" 45" (115cm) fabric without nap
sizes 8, 10, 12
NOTE: Cut one C.



44" 45" (115cm) fabric without nap
sizes 14, 16, 18
NOTE: Cut one C.



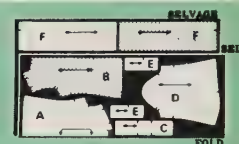
58" 60" (150cm) fabric without nap
sizes 8, 10
NOTE: Cut one C.



58" 60" (150cm) fabric without nap
size 12
NOTE: Cut one C.



58" 60" (150cm) fabric without nap
sizes 14, 16
54" (140cm) fabric without nap
sizes 8, 10, 12, 14
NOTE: Cut one C.



58" 60" (150cm) fabric without nap
size 18
NOTE: Cut one C.



THE SIMPLICITY PATTERN COMPANY

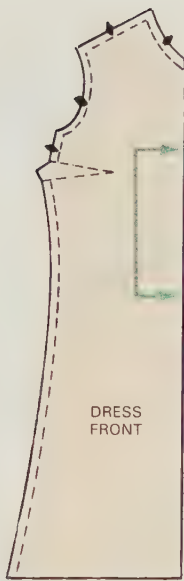
23-12 Many layouts are shown on the guide sheet of a pattern.

- All pattern pieces are assembled that will be needed for the view selected. All other pieces are in the envelope.
- Your name and class period are on the guide sheet, envelope, and each pattern piece.
- All pattern pieces are placed on the fabric according to the cutting layout. There is room for all.
- Adjustments, if needed, are made.
- The fold of the fabric is grain perfect. No wrinkles are showing, and all edges match.
- Pattern details have been studied. You know how many pieces to cut. You can identify cutting lines, seam lines, dots, notches, darts, zippers, buttons, and hems.

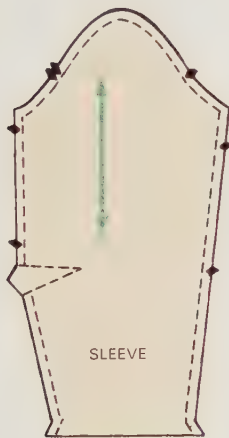
23-13 Check these points before you start to pin pattern to fabric.

that edge along the fold of the fabric. Pin along that edge first.

If the piece does not need to be along a fold, the grain line is a straight line with an arrow at each end. See 23-15. The line should be placed on perfect grain of fabric. With the pattern and fabric lying flat on the table, push a pin through all layers at the point of each arrow. Then measure from the point of each arrow to the edge of the fabric. The two distances should be the same. If they are different, make a slight adjustment. Then measure again. Repeat until the grain line is straight.



23-14 Bending arrows point to an edge that should lie on a fold of the fabric.



23-15 A straight line with arrows represents the lengthwise grain line.

Smooth the pattern pieces from the grain line or fold line toward the edges as you work. Pat, rather than pull, the pattern and fabric.

Place pins about 6 inches (15.2 cm) apart, as shown in 23-16. On curved edges

or slippery fabric, place them closer together. Point pins at right angles to cutting lines and fold lines. Point them diagonally into corners. Pins should not lie across cutting lines.

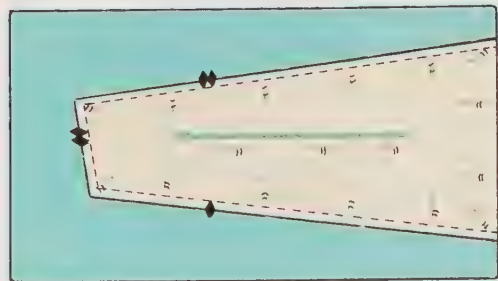
When you have finished pinning, check once more with your layout diagram to be certain you have followed it exactly. Measure again from the grain lines to the edge of your fabric. Ask your teacher for final approval before you begin cutting.

You may not have enough time to pin and cut pieces in one class period. If you must wait another day, carefully fold your pattern and fabric in about 12-inch (30.5 cm) folds. The next day you can carefully unfold it to cut.

CUTTING

Bent-handled shears are the best for cutting out a garment. The design allows the blade to lie flat on the table while cutting. Since the fabric is raised only slightly, you can cut exactly along the cutting lines.

Look for arrows in the seam line or a sketch of shears in the cutting line. Cut in the direction they point. In this way, you will be cutting with the grain so the fabric will not stretch or ravel.



23-16 Notice how the pins are placed in this pattern piece.

Cut with long, smooth strokes. Keep your free hand lightly on the pattern and fabric near where you are cutting. Cut slowly enough to be aware of notches and any alterations. Do not cut beyond your cutting line. You could ruin a section of fabric that you need for another piece.

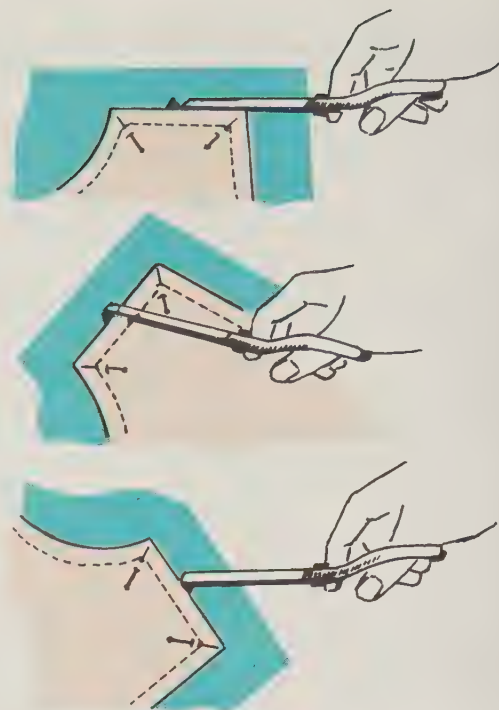
As you approach a notch on your cutting line, cut to the base with the points of your scissors. Cut outward to the tip of the notch as shown in 23-17. Cut back inward to complete the notch, still using the tip of your scissors. Cutting notches outward will give you room to make a smaller seam allowance if you later find this is needed for better fit. Double or triple notches can be cut across the top making one wide notch rather than two or three small ones so close together.

Notches are numbered. The numbers will match when the garment pieces are joined. For instance, notch 7 on a shirt front will match notch 7 on the shirt back. If this is your first sewing experience, you may want to put the number on each notch beside it, in the seam allowance. Be careful not to write past the seam line.

Save some of the large fabric scraps. You can use them later for practice stitching.

MARKING

When you have finished cutting your garment, find the pieces with markings that need to be transferred to the fabric. These markings include center front, center back, darts, dots, buttons, buttonholes, pockets, and the top of sleeves. They are the markings that will help you put the garment together correctly. Do not mark seam lines. Most sewing machines have a gauge you can follow to sew straight, even seams.



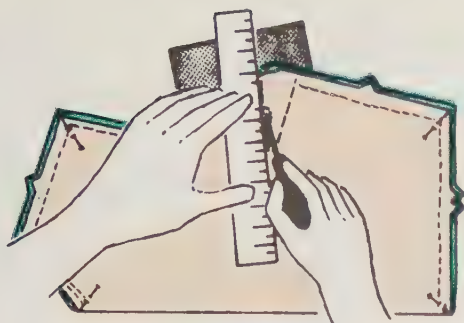
23-17 Cut notches to the outside of the seam allowance.

Remove only the pins that are in the way of markings you need to make. The other pins are needed to hold the pattern in place.

Several methods can be used to transfer markings to fabrics. A *tracing wheel* with *dressmaker's carbon paper* is one of the most common. See 23-18.

Some carbons make permanent marks, so be careful when using this method of marking. Before you begin, test the carbon on a scrap of fabric. Check to see that the markings do not show on the right side.

Place the colored sides of the carbon paper next to the *wrong* side of the fabric. Use a sheet of cardboard to protect the table. Then roll the tracing wheel along the markings you want to transfer. Use a ruler to mark straight lines. Use only enough pressure to make the markings show on the



23-18 A tracing wheel and dressmaker's carbon paper are often used for marking. Always mark a fabric scrap as a test before marking the garment.

wrong side. Too much pressure will cause the marks to show on the right side.

Use only light-colored carbon paper on light-colored fabrics. Dark colors would show on the right side.

Pins are often used with *tailor's chalk* for marking, 23-19. With the pattern facing upward, push pins through all layers. Turn the piece upside down. With a ruler as a guide, draw a chalk line between the pins. (Draw on the wrong side of the fabric.) Then with this same side facing upward, push pins down through all layers. Turn the piece upside down again. Remove the pattern, and again draw chalk lines between pins. Chalk lines will disappear when the garment is laundered or dry-cleaned.

A newer method of marking is to use *fabric marking pens*. These pens contain disappearing ink. The ink is either water-soluble or air evaporating. Therefore, you can use the pens to transfer markings to either the right or wrong side of your fabric. After constructing your garment, wash it to remove water-soluble pen marks. Place air-evaporating pen marks when you are ready to sew. They contain an ink that evaporates in less than 48 hours.

A good way to mark both the right and wrong sides of a fabric is by *basting*. To baste, make long, loose stitches by hand or machine. Use a contrasting color for the thread. See 23-20. Basting is sometimes done to transfer other kinds of markings to the right side. It takes more time than other marking methods. But it is accurate,



23-19 One way to mark is to insert pins at important construction details. Turn the garment piece over and mark the details with tailor's chalk.



23-20 Marking garments with basting stitches takes time, but it is neat and accurate.

and it does not damage the fabric. After the markings have been used, the basting stitches are removed.

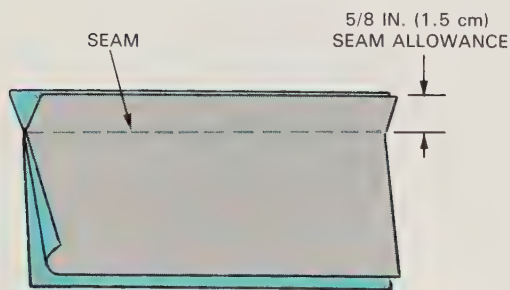
When you have finished marking, you may remove all the pins and put the pattern pieces back into the envelope. You may leave the pattern pieces pinned to the fabric until you are ready to sew them together. This makes the pieces easy to identify.

MACHINE SEWING

At this point, you know that a sewing machine is a fine, delicate piece of machinery. You are ready to use it carefully and skillfully.

A quick review of terms will remind you that *stitches* are used to hold two pieces of fabric together. A row of stitches forms a *seam*. The usual *seam allowance* or width is 5/8 inch (1.5 cm). See 23-21.

As you start to sew, check that the spool and bobbin threads are pulled about 5 inches (13 cm) behind the presser foot. This will prevent tangling and knotting of thread at the beginning of the seam. Is the take-up lever at its highest point? If not, the thread will be pulled out of the needle as you start.



23-21 Study the relationship between a seam and a seam allowance.

Place the fabric under the presser foot. Keep most of the fabric to the left of the needle so you can see the seam guides written on the throat plate. The fabric edges should line up with one of the seam guides. For instance, if you are sewing a 5/8 inch (1.5 cm) seam, the fabric edges should lie exactly on the 5/8 inch (1.5 cm) line.

Using your right hand, turn the hand wheel and lower the needle into the starting point. Lower the presser foot with your right hand while holding the fabric with your left hand.

Start to stitch at a slow, constant speed. Keep both hands lightly on the fabric near the presser foot. Do not push or pull the fabric; just guide it. Watch the seam guide, not your line of stitching or the needle, as you sew.

When you stop, move the take-up lever to its highest point by turning the hand wheel. Then raise the presser foot and pull the fabric to the back. Cut threads, leaving about 3 inches (7.5 cm) if they are to be tied.

Instead of tying threads at the start and end of each seam you may wish to secure your thread by *backstitching*. Take three or four stitches forward. Then carefully sew in reverse, directly over the other stitches. Then sew forward again.

As you sew, you can remove each pin as the presser foot comes to it. Or if your machine has a flexible or "rocking" presser foot, you can sew over the pins. If you do sew over pins, sew very slowly. At a slow speed, if the needle hits a pin, it will slide over it. At a faster speed, the needle could bend or break.

Sometimes you need to turn a corner while stitching. See 23-22. To do this, stitch to within 5/8 inch (1.5 cm) of the corner.



23-22 To turn a corner, insert the needle into the garment. Raise the presser foot, and turn the garment. Lower the foot and sew.

Stop. Be sure the needle is down into the fabric. Lift the presser foot. Turn the fabric. Lower the presser foot, and continue to sew.

Staystitching

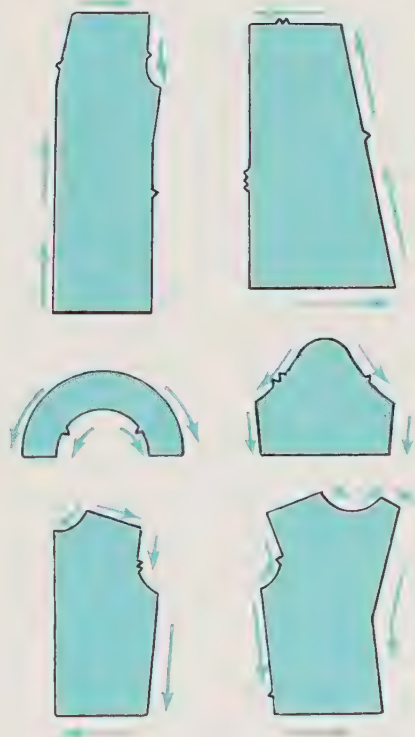
Staystitching is done to stabilize fabrics. Staystitching is a line of regular machine stitching on a single thickness of fabric. It is sewn 1/8 inch (.3 cm) or less from the seam line (toward the cut edge). Use the same thread you will use to make the garment. Sew around curves and along bias edges.

For many years, staystitching was used on all fabrics. Today, it is used less often. Many modern fabrics do not stretch or fray. The yarns are “locked” into position with finishes. Loosely woven or flimsy fabrics still require staystitching.

Directional stitching

When you cut out your garment pieces, you followed the arrows shown in the seam line or shears shown in the cutting lines. Sewing in this same direction is called *directional stitching*. It helps to prevent puckers.

To find which direction to sew, you can refer to the pattern again. Follow the arrows or the sketch of a presser foot in the seam lines. Or you can test each piece yourself. Rub your finger down along a cut edge of a woven fabric. Then rub it up along the same edge. Which way feels smoother? Sew in that direction. As a rule, sew from a wide area to a narrow area and from the top of a curve to the bottom. Look at 23-23.



23-23 Directional stitching makes seams look smooth and neat.

Basting

Basting stitches are long and loose. They can be made by hand or by machine. They have many uses in sewing. The advantage of basting stitches is that you can remove them easily.

To hand baste, use a single thread no longer than your arm. Thread the needle with the end that came off the spool of thread first. Your thread will tangle less as you sew. Make a knot in the other end.

To machine baste, set the stitch control to 6 or 8 stitches per inch (2.5 cm). Sew along the regular seam line. Do not backstitch or knot the thread ends. To remove the basting stitches without damaging the fabric, clip the top thread every few inches. Then pull the bottom thread.

You have already learned that basting stitches are used to transfer pattern markings to garment pieces.

Basting is also helpful when you want to check the fit of a garment. After basting the seams, try on the garment. If it fits, sew over the basting stitches for a permanent seam. If you need to sew a narrower or wider seam, rebaste, possibly with another color thread, remove first basting stitches, and recheck the fit.

Easing

Easing is used when two edges of fabric are to be joined and one edge is slightly larger than the other. Easing should not cause visible gathers or pleats to form in the seam line. The seam should be smooth when stitched. Easing is used when making set-in sleeves, joining shoulder seams, and attaching waistbands, 23-24.

To ease, stitch one row of machine basting close to the seam line in the larger piece of fabric. Stitch a second row of stitches



23-24 *Set-in sleeves are eased to fit into the armhole of garments.*

ches 1/4 inch (.6 cm) away from the first row of stitching in the seam allowance. Pin the ends of the two pieces together with the eased side up. Pull the threads and distribute the fullness evenly. Pin in place. Stitch along the seam line being careful to avoid any tucks or folds.

When there is only a small amount of fullness to ease, you may be able to use pins only. To do this, pin the ends of the pieces of fabric together. Then pinning as you work, distribute the fullness of the larger piece evenly across the shorter piece.

Gathering

Gathers are tiny, soft folds of fabric formed when a larger piece of fabric is sewn to a smaller piece. Puffed sleeves and gathered skirts use gathers, 23-25. Gathers are fuller than easing.

To gather, sew one row of machine basting next to the regular seam line in the seam allowance. Sew another row 1/4 inch (.6 cm) away from the seam line toward the cut edge. Leave long threads at both ends. With the right sides of the fabric together, pin the edges together matching notches, seams, and other markings. Then gently pull both bobbin threads, gathering up the

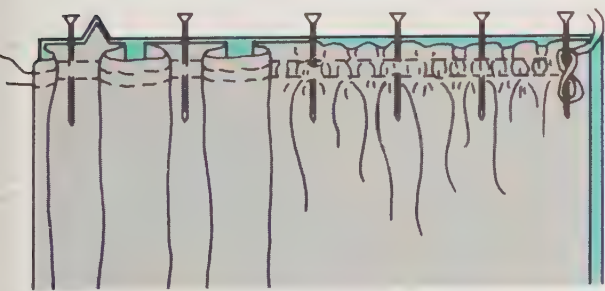


23-25 The extra fabric in puffed sleeves is gathered to fit into the armhole seam.

full edge until it lies flat against the shorter edge between the pins. Fasten these threads by wrapping them in a figure eight around the pin at the end, 23-26. Repeat from the other end of the machine stitching. Arrange the gathers evenly and place additional pins crosswise to the stitching. Stitch the gathered piece to the matching piece with the gathered side up. Stitch slowly as you hold the gathers to prevent any folds from forming in the seam.

Darts

Darts provide shape and fullness to a garment so that it fits curves of the body. Darts should point to the fullest part of body curves. For instance, on slacks and



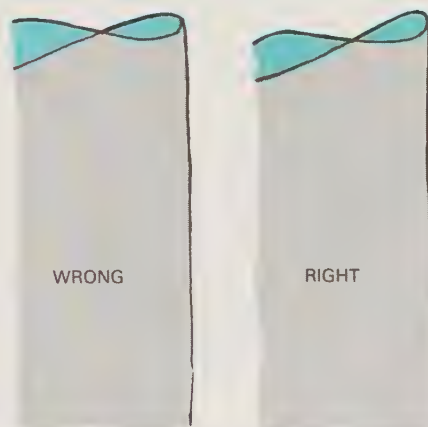
23-26 Secure threads by wrapping them around a pin. Then pull the other ends to gather.

skirts, darts begin at the waistline and taper to the hipline. This allows fullness around the hips. In jackets, blouses, and shirts, darts taper to the fullest part of the bust or chest.

A dart is made by stitching to a point along a fabric fold. Darts are made before other seams in a garment are sewn. This is because they cross other seam lines.

To make a dart, begin at the widest end of the dart and sew to the point. To prevent the point from puckering, the last three stitches should be made on the fold. See 23-27. At the end of the dart, tie the threads securely.

Pressing darts. The next step is to press the darts. Press darts along the stitching line, from the widest end to the point. Use a tailor's ham to add shape as you press. Vertical darts are pressed toward the center front or center back. Horizontal darts are pressed downward. If a dart is wide or made of bulky fabric, it may be slashed to within 1 inch (2.5 cm) of the point and pressed open.



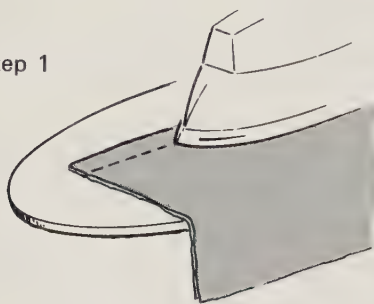
23-27 To prevent the fabric from puckering at the point of the dart, make the last three stitches of the dart on the fold.

SEAMS

The most common seam is the *plain seam*. With right sides together, match the cut edges and notches. Place pins about 5 inches (13 cm) apart along the rest of the seam line. Pins should be at right angles to the seam line. The heads of the pins should lie within the seam allowance. Sew along the seam line. Secure threads at both ends.

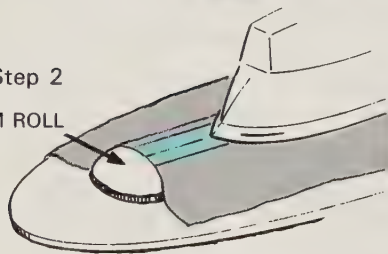
The three steps in pressing open a plain seam are shown in 23-28. First, press the seam flat with right sides together. Next, open the two garment pieces. With *wrong*

Step 1

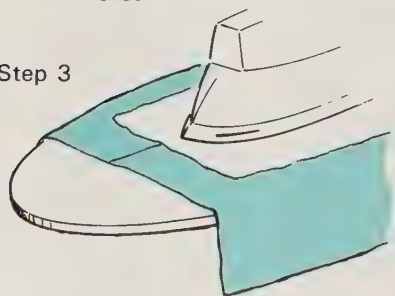


Step 2

SEAM ROLL



Step 3



23-28 Follow these steps when pressing a plain seam. 1. Press with right sides together. 2. Press seam open, wrong sides up. 3. Press seam open, right sides up.

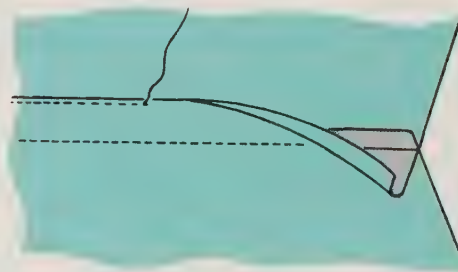
sides up, press the seam open. For best results, use a seam roll for this step. The seam roll lets the garment fall away from the seam so the edges of the seam will not show through to the right side. Use only the tip of the iron when pressing seams open. Then press the seam open with *right* sides up, using a dry press cloth.

Flat-fell seams, 23-29, are used on shirts, underwear, sportswear, jeans, pajamas, and other clothing receiving hard wear. Whenever raw edges are not desirable, this seam is ideal.

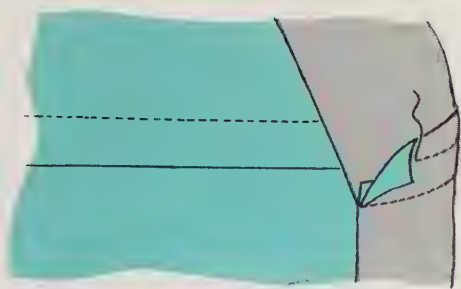
Stitch a plain seam with the *wrong* sides together. Trim the under seam allowance to 1/8 inch (.3 cm). Press the seam to one side with the wider part on top. Turn under the edge of the top seam allowance and fold it over the trimmed edge. Stitch close to the folded edge through all thicknesses. Keep the right side of the garment up as you sew.

Welt seams, 23-30, are less bulky than flat-fell seams. For this reason, they are often used on heavy fabrics.

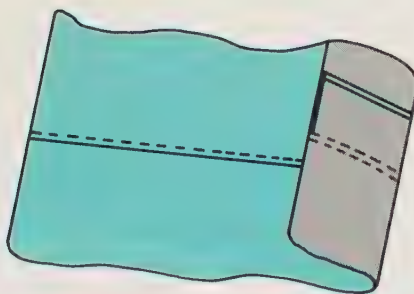
Sew a plain seam with right sides together. Trim one seam allowance to 1/4 inch (.6 cm). Press the other seam allowance over the trimmed edge. With right sides up, stitch through the outer fabric and the wider seam allowance. The



23-29 Flat-fell seams provide sturdy construction on jeans and sportswear.



23-30 A welt seam is a good choice for heavy fabrics.



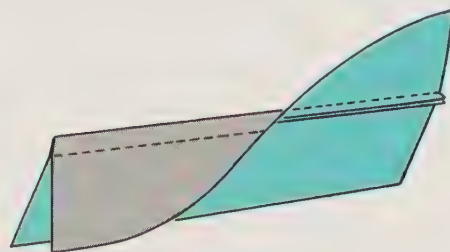
23-31 Topstitched seams create a decorative effect on garments.

distance between the seam line and the second row of stitching can vary, depending on the look you want. For a padded look, press the seam, right sides down, over a bath towel.

Topstitched seams are often used for a decorative effect on sport clothes. Topstitching may be found on pockets and pleats or to emphasize seam lines.

Topstitched seams can feature stitching on one or both sides of a seam. Begin both by stitching a plain seam. For one row of stitching, press the seam allowance to one side. Topstitch the desired distance from the seam on the right side of the fabric through all three thicknesses, 23-31. If two rows of stitching are desired, press the seam allowance open and topstitch on both sides of the seam line through both layers of fabric. When topstitching collars, cuffs, or pockets, stitch carefully and slowly, using your presser foot as a guide to sew the same distance from the seam line on each piece. A slightly longer stitch is often used to create more attractive lines of stitching on the outside of the garment.

A *French seam* is a seam within a seam. See 23-32. It is used on fabrics that ravel easily. It is also used on sheer fabrics because no raw edges show. French seams are used only for straight seams.



23-32 A French seam provides an attractive finish for sheer fabrics.

Place *wrong* sides together, and stitch about 1/4 inch (.6 cm) from edge. Trim seam to 1/8 inch (.3 cm). Press seam flat. Fold right sides together and stitch 1/4 inch (.6 cm) from edge. The first seam will be enclosed in the second seam. Press seam to one side.

Finishing seams

Many modern fabrics do not need seam finishes. The yarns are locked together and do not ravel. But some fabrics, such as loosely-woven and sheer ones, do require seam finishes.

Pinked seam finishes, as shown in 23-33, look nice, but they do not prevent raveling. They should be used only on fabrics that do not ravel.

After sewing the seam, press it flat. Pink the edges. Then place the seam on a seam roll and press it open.

A *turned and stitched seam finish* looks neat and prevents raveling. See 23-34. This finish is often used for unlined jackets of lightweight fabrics. It is also used on the edges of facings for sheer and lightweight fabrics. It is too bulky for medium and heavyweight fabrics.

Press the seam open. Turn the edges under 1/4 inch (.6 cm). Stitch close to fold.

Your machine may have a *zigzag* setting or attachment. A zigzag finish is quick and easy, and it prevents raveling. It puckers less than a line of straight stitches because it has more “give.” It works best on medium and heavyweight fabrics.

Press the seam open. Stitch close to the edge of the seam allowance through a single layer of fabric. See 23-35.

Hand overcasting is used for fabrics that are bulky or that ravel easily. It prevents raveling, and it leaves a flat seam. The disadvantage is that it takes a lot of time.

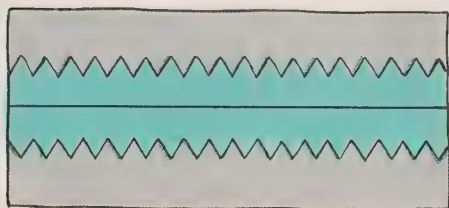
Press the seam open. Trim all notches and frayed edges. Using a single thread, use a loose overcast stitch, 23-36. Each seam allowance is done separately.

Machine overcasting can be done by sergers and some sewing machines. This finish is used for firm, middle-weight fabrics. The stitches are more bulky than hand overcast stitches.

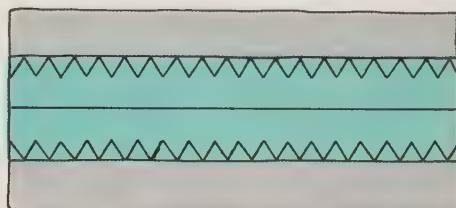
Press the seam open. Stitch through a single layer of fabric. The needle should move back and forth across the cut edge of the seam allowance. It should reach only slightly outside the cut edge. See 23-37.

TRIMMING, GRADING, AND CLIPPING

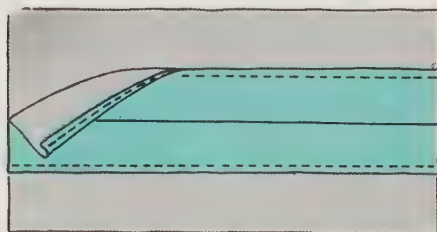
In some garment areas, a regular seam allowance is too bulky. You can eliminate bulk by trimming, grading, and clipping seams.



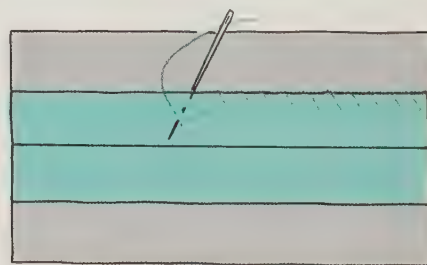
23-33 Pinked seam finishes should be used only on fabrics that do not ravel.



23-35 A zigzag finish is easy to do with a zigzag setting on the sewing machine.



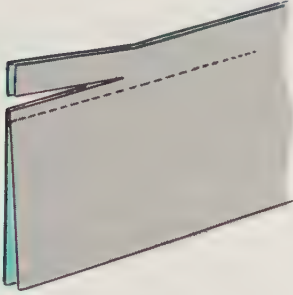
23-34 A turned and stitched finish is a good choice for lightweight fabrics.



23-36 A hand overcast finish prevents raveling on bulky fabrics.



23-37 A serger can be used to make a machine overcast finish.



23-38 To remove bulk, trim seams to 1/8 inch (.3 cm) or 1/4 inch (.6 cm).



23-39 Grading seams means cutting each seam allowance to a different width.

To *trim* a seam, cut away part of the seam allowance, 23-38. Trimming is done on light-weight fabrics.

For heavier fabrics or for places with three layers of fabric, *grading* is better. To grade, cut each seam allowance to a different width. See 23-39.

Curved seams will not lie flat unless they are *clipped*. To clip, use the tips of sharp

shears. Cut *to* the seam line, but not through it. Clip every 1/4 inch (.6 cm) to 1/2 inch (1.3 cm) along the curve.

When a seam curves *inward*, as shown in 23-40, clip straight into the seam allowance. Necklines, armholes, and waistlines are inward curves.

When a seam curves *outward*, as shown in 23-41, clip V-shaped sections from the seam allowance. When the seam is opened, the remaining notches will come together to make a flat, even seam. Rounded collars and pockets are outward curves.

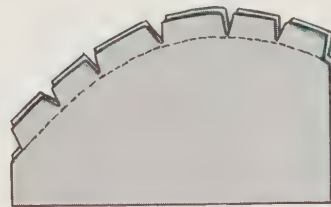
All curved seams should be pressed open using a rounded pressing surface such as a tailor's ham.

Corners should be clipped to make the points lie flat. To clip around a right-angle corner, cut diagonally across the seam allowance, as shown in 23-42. Cut close to the stitching.

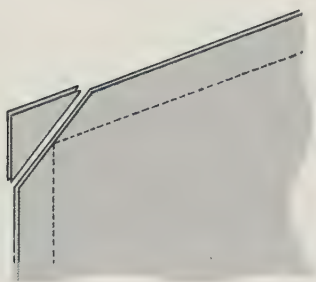
If the corner has a sharper point, as the one in 23-43, cut diagonally across the seam allowance as before. Then make another



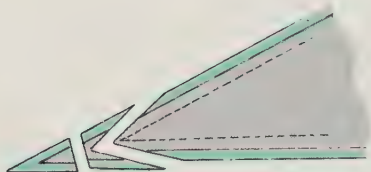
23-40 Clip straight into inward curves.



23-41 Clip V-shaped sections out of outward curves.



23-42 Clipping a right-angle corner.



23-43 Grading and clipping a sharp corner.

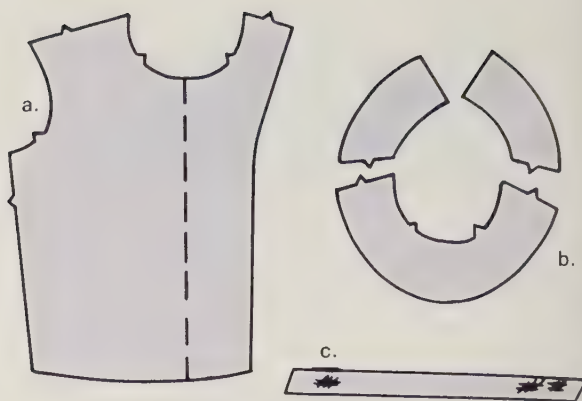
cut on each side of the corner to remove the extra fabric.

FACINGS

Facings are used to cover raw edges in a garment such as at the armholes, neckline, or other garment openings. In addition to covering the raw edge, facings add some firmness to the open areas and keep them from stretching out of shape. They are usually not meant to be seen on the right side of the garment.

There are three main types of facings: extended, fitted, and bias. See 23-44. An *extended facing* is cut as part of your pattern piece. The facing part is then folded to the inside. Front or back openings often use an extended facing. This will be indicated on your pattern piece.

A *fitted facing*, sometimes called a shaped facing, is cut the same shape as the raw edge and is a separate pattern piece.



23-44 The three types of facings are (a) extended, (b) fitted, and (c) bias.

It is stitched to the edge and turned to the inside of the garment.

Another type of facing is a *bias facing*. This is a narrow bias strip of fabric stitched to the edge to be faced. Necklines, armholes, and other gently-curved edges often have bias facings. Bias strips of fabric can be cut or bias tape can be purchased. After the narrow facing is attached to the edge, the free edge is hand stitched or topstitched to the garment.

Stitching the facing

The first step in constructing a facing is to sew the facing pieces together. The free edges should then be finished to prevent raveling. There are several ways to finish the edges, depending upon the weave and weight of the fabric.

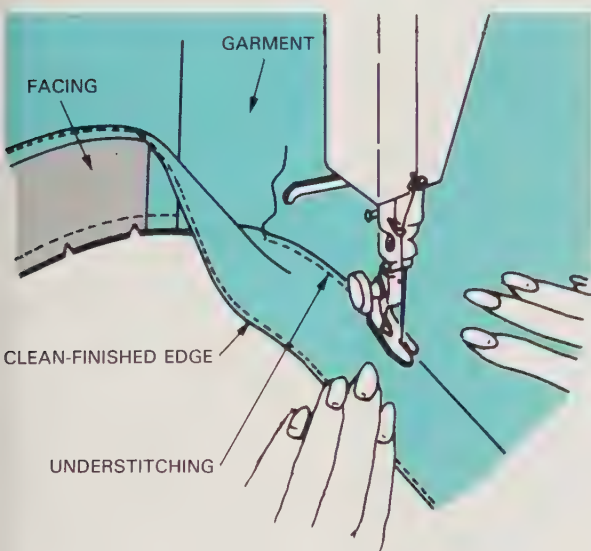
Light to medium-weight fabrics can be *clean-finished*. To clean-finish the edge, first staystitch 1/4 inch (.6 cm) from the raw edge. Then fold the edge of the facing under along the line of stitching. Stitch again close to the folded edge.

If the fabric does not ravel easily, a pinked edge will be all that is needed. Machine stitch

1/4 inch (.6 cm) from the unnotched edge. Trim the edge with pinking shears.

On heavy fabrics that ravel easily, overcast the raw edge either by hand or by machine.

To attach the facing to the garment, pin the right sides together matching notches and seams. Stitch the facing to the garment. Trim, grade, and clip the seam as needed. Press the seam toward the facing. Understitch the seam to give the edge a crisp finish and to prevent the facing from rolling to the outside. *Understitching* is a row of stitching placed close to the seamline through the facing and the seam allowances. When understitching, sew on the right side of the facing, keeping the seam allowances toward the facing. Pull the fabric slightly on either side of the seam line as you sew, 23-45. Turn the facing to the inside and press. Fasten or *tack* the free edge of the facing to the seam allowances with hand stitches.



23-45 Understitching the facing to the seam allowances helps to hold the facing in place.

INTERFACING

An *interfacing* is a layer of fabric placed between the garment and the facing. It is used to add body and firmness to the outer fabric. It also prevents stretching and provides extra reinforcement. Interfacing is used in collars, cuffs, lapels, facings, and waistbands. It is also used in areas of stress such as under buttons and around buttonholes. See 23-46. Garments are better looking and more durable when interfacing is used, 23-47.

A wide variety of interfacing fabrics are available. Consider the look you want to achieve. A heavier weight interfacing gives a crisp look whereas a lighter weight gives a softer look. As a general rule, choose an interfacing that is a little lighter in weight than your garment fabric.

Read the care requirements carefully before you buy. The cleaning requirements for the interfacing should be the same as the finished garment. For instance, if you plan to wash the garment, you would want to use an interfacing fabric that is also washable. Also check to see that the interfacing is preshrunk if it is to be used in a washable garment.

There are three main types of interfacing fabrics: woven, nonwoven, and fusible. *Woven* interfacings have grain so the pattern pieces must be cut on the same grain as the facing and outer fabric. Woven interfacings come in a wide range of weights. They work best with woven fabrics.

Nonwoven interfacings have no grain so they can be cut in any direction. They don't ravel, are preshrunk, and are washable and dry-cleanable. Nonwoven interfacings are available in various weights. All-bias types stretch in all directions. Non-stretchable in-



PELLON, DIV. OF FREUDENBERG NONWOVENS

23-46 *Interfacing (blue areas) provides a framework within a garment to shape, support, and stabilize.*

terfacings are used mainly for craft and decorating projects.

Some interfacings are *fusible*. This means they have a resin on one side of the fabric that melts with heat and moisture and bonds to your fabric pieces. Fusible interfacings may be woven, nonwoven, or knit. They are best used with garment fabrics that are firm enough that the outline of the interfacing will not show on the outside. They are also useful in waistbands and for stabilizing buttonholes if the fabric ravel easily.

Woven interfacings must be sewn to the garment. Pin the interfacing to the wrong side of your fabric. Stitch 1/2 inch (1.3 cm) from the fabric edge. Trim the interfacing close to the stitching line. Cut diagonally 1/4 inch (.6 cm) across any corners to reduce bulk.

To attach fusible interfacings, first trim away all seam allowances. Place the adhesive side of the interfacing on the



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23-47 *Notice the difference interfacing can make in a garment. The outfit on the left has no interfacing. The outfit on the right has a professional look provided by interfacing.*

wrong side of your fabric. Fuse following the manufacturer's directions, 23-48. Fusible interfacings can be applied to the garment facings rather than to the outer garment fabric. This prevents the edge of the interfacing from showing on the outside of the garment.

ZIPPERS

Zippers come in all lengths, weights, styles, and colors. The back of your pattern envelope lists the length and type of zipper you need.

Preshrink zippers that have a cotton tape. Then press the tape to remove any wrinkles. Do not press the coils (teeth) of nylon or polyester zippers. A hot iron could melt them.

Most zippers are sewn into place by machine. To do this, you must change the regular presser foot to a *zipper foot*. See 23-49. You can stitch closer to the zipper coils when using a zipper foot.

Centered zippers

Centered zippers are used at center front and center back openings. The zipper coils are centered in the seam line. Two rows of stitching are used — one on each side of the seam line. The two rows are an equal distance from the seam line.

Find the two garment pieces that will be joined by the zipper. Put the right sides together, and pin along the seam line.

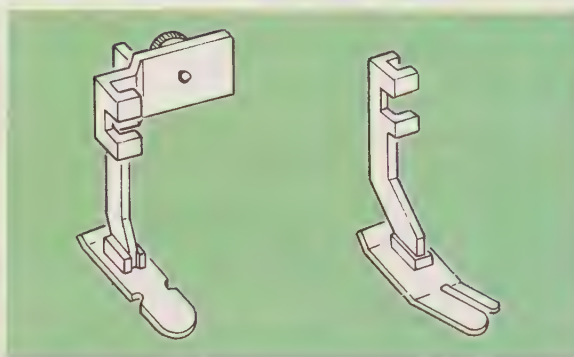
Measure the length of the zipper, and add 1 inch (2.5 cm). From the top of the seam line, measure down this distance. Mark the point with *two* pins.

Sew a regular seam, beginning at the bottom edge of the garment piece and ending at the two pins. Backstitch to secure thread



PELLON, DIV. OF FREUDENBERG NONWOVENS

23-48 For fusible interfacing to fuse properly, you need steam, heat, and pressure. Place a press cloth over the garment part.



23-49 A zipper foot (left) lets you sew closer to the zipper coils than a regular presser foot (right).

ends. Then move the stitch control to the longest possible stitch. Baste the rest of the seam. Press the seam open.

Remove the presser foot, and attach the zipper foot. Adjust the zipper foot so that the foot is to the *right* of the needle.

Open the zipper. Keep the pull tab pointing toward the top of the zipper.

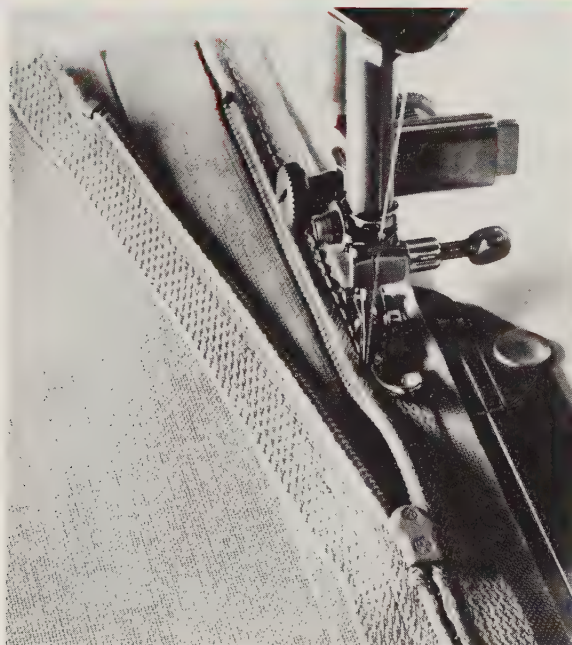
Place the zipper face down on the seam allowance. Match the bottom stop of the

zipper to the start of the basting stitches. One side of the zipper's coil should lie exactly on the seam line. Baste from top to bottom. Stitch through the zipper tape and the seam allowance only. See 23-50. When you sew next to the pull tab, tilt the tab to make the zipper tape lie flat against the fabric.

Adjust the zipper foot so it is to the *left* of the needle. Place the other side of the zipper's coil on the seam line. Again, baste from top to bottom, stitching through the zipper tape and the other seam allowance.

Close the zipper. Set the stitch control at 10 to 12 stitches per inch (2.5 cm). Move the zipper foot to the *right* side of the needle.

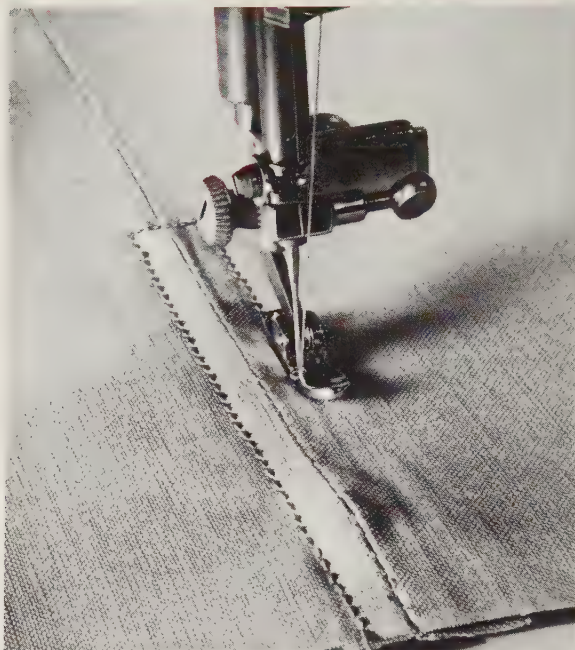
CENTERED ZIPPER: STEP 1



TALON CONSUMER EDUCATION

23-50 Baste the zipper tape to the seam allowance. Stitch from top to bottom.

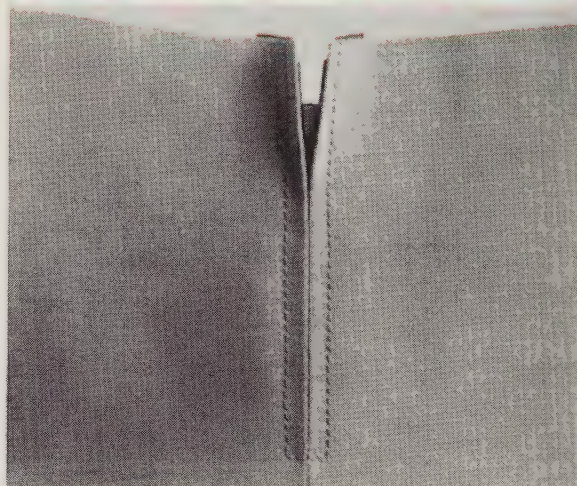
CENTERED ZIPPER: STEP 2



TALON CONSUMER EDUCATION

23-51 Sew zipper to garment. Stitch down, across, and up the other side.

CENTERED ZIPPER: STEP 3



TALON CONSUMER EDUCATION

23-52 Carefully remove basting stitches from the seam line. If the fabric does not lie flat, remove basting stitches from seam allowances, too.

Place the garment flat, with right sides up. Sew the zipper to the garment, stitching through the garment, seam allowance, and zipper tape. Stitch down one side, across the bottom and up the other side. Keep the rows of stitches an equal distance from the seam line, as shown in 23-51.

Remove the basting stitches in the seam line, 23-52. If the seam puckers, remove the basting stitches in the seam allowances. Press.

Lapped zippers

The zipper coil is less visible in lapped zippers than in centered zippers. Most openings in side seams are closed with lapped zippers because the lap can hide the zipper from view. Lapped zippers can also be used for other garment openings.

Sew, baste, and press the zipper seam as you would for a centered zipper.

Attach the zipper foot so it is to the *right* of the needle. Open the zipper. Place the bottom stop of the zipper on top of the first basting stitch. The coil should lie exactly on the seam line.

Stitching through the zipper tape and one seam allowance, sew from bottom to top. Stitch very close to the zipper coil. See 23-53. As you sew next to the pull tab, tilt it so you can keep your stitches straight.

Close the zipper. Turn it right side up. This creates a fold along the stitches just sewn.

Move the zipper foot to the *left* of the needle. Stitch very close to the edge of the fold, 23-54. Sew from bottom to top.

With wrong sides up, sew across the bottom and up the side of the zipper. See 23-55. Stitch through the zipper coil, seam allowance, and garment. Pull the threads

at the bottom of the zipper to the wrong side. Tie a knot to secure them.

Remove the basting stitches, as pictured in 23-56.

The *fly-front zipper* is a variation of the lapped zipper. The difference is that the seam allowance is extra wide for the fly-front zipper to allow for the larger lap. If your pattern calls for a fly-front zipper, the guide sheet will give complete directions.

Invisible zippers

From the right side of a garment, an invisible zipper looks like a regular seam. The pull tab is the only clue to the zipper placement.

Invisible zippers are sewn in an open seam. The rest of the seam will be sewn *after* the zipper is in place. To mark the seam lines, baste 5/8 inch (1.5 cm) from the edge of the garment. Stitch through a single layer of fabric.

Open the zipper. With the wrong side up, steam press the coils flat, 23-57. This allows you to stitch closer to the coils in the next steps.

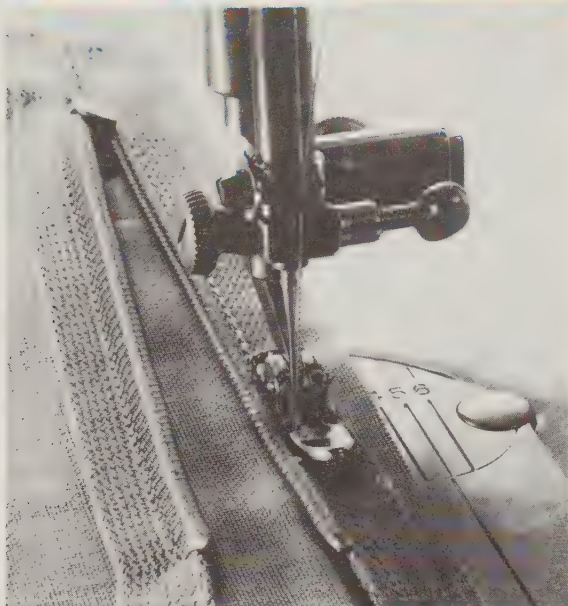
A special zipper foot is needed for invisible zippers. Attach this to your machine.

Place the zipper face down on the *right* side of the fabric. The pull tab should point down. Place one coil along the seam line, as in 23-58. The top stop should be 3/4 inch (1.9 cm) below the cut edge of the garment.

Adjust the zipper foot so the needle is in the *right* hole, and the coil runs under the *right* groove. Stitch from the top of the zipper down to the pull tab. Backstitch to secure threads.

Place the other coil face down on the *right* side of the other garment piece. This will cause the right sides of the two garment

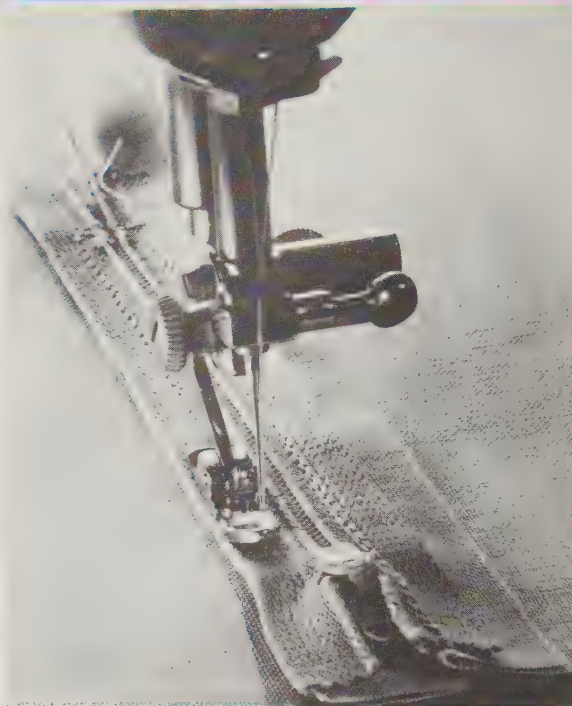
LAPPED ZIPPER: STEP 1



TALON CONSUMER EDUCATION

23-53 Sew zipper tape to seam allowance. Stitch from bottom to top, close to the zipper coil.

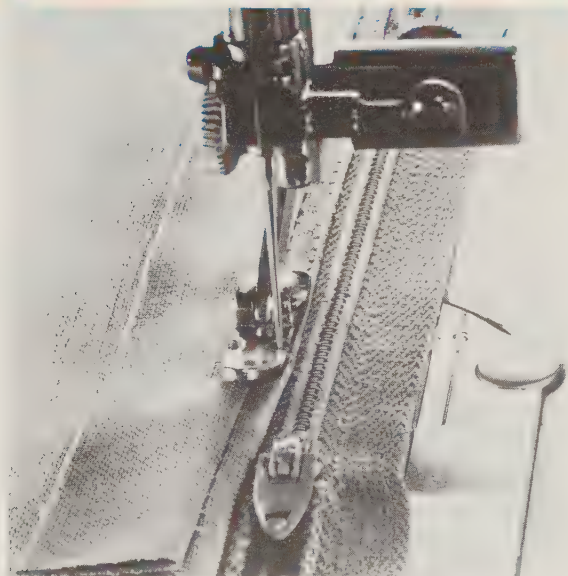
LAPPED ZIPPER: STEP 3



TALON CONSUMER EDUCATION

23-55 Sew across bottom of zipper and up the other side.

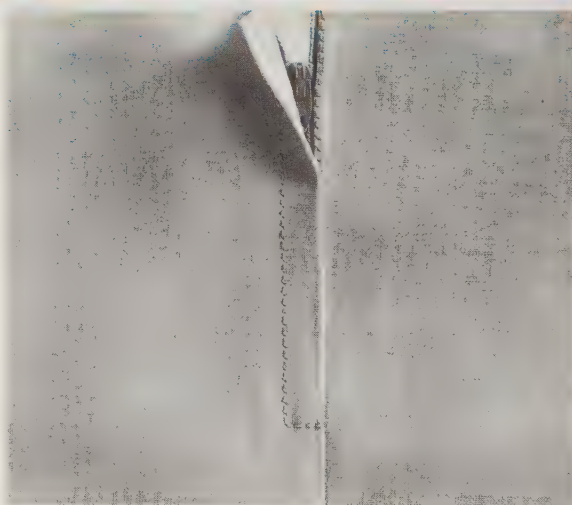
LAPPED ZIPPER: STEP 2



TALON CONSUMER EDUCATION

23-54 Stitch along the edge of the fold.

LAPPED ZIPPER: STEP 4



TALON CONSUMER EDUCATION

23-56 Remove basting stitches from the seam line.

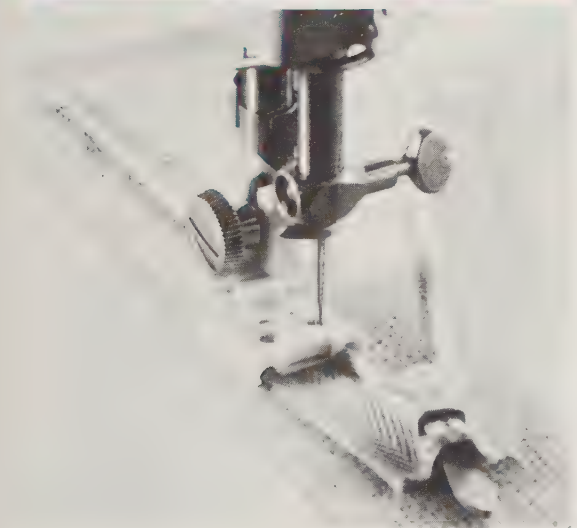
INVISIBLE ZIPPER: STEP 1



TALON CONSUMER EDUCATION

23-57 From the back of the zipper, press the coils flat.

INVISIBLE ZIPPER: STEP 2



TALON CONSUMER EDUCATION

23-58 With zipper face down on the right side of the fabric, place one coil along the seam line. Stitch from top to bottom.

INVISIBLE ZIPPER: STEP 3



TALON CONSUMER EDUCATION

23-59 Place the other coil face down along the other seam line. Place the needle in the left hole of the zipper foot and sew.

pieces to come together. See 23-59. The coil should lie along the seam line. The top stops on each side of the zipper should be straight across from each other.

Adjust the zipper foot so the needle is in the *left* hole, and the coil runs under the *left* groove. Stitch from top to bottom. Backstitch to secure threads.

Close the zipper. The right sides of the fabric roll together to make it look like a regular seam. The coils show only on the inside.

With right sides together, pin the seam below the zipper tape. Remove the part of the zipper foot that has the grooves. Move the foot to the left of the needle. Insert the needle 1/4 inch (.6 cm) above and slightly to the left of the previous stitching, 23-60. Sew the rest of the seam. Secure thread at the bottom of the zipper with a knot.

To make the zipper more secure, sew the ends of the zipper tape to the seam

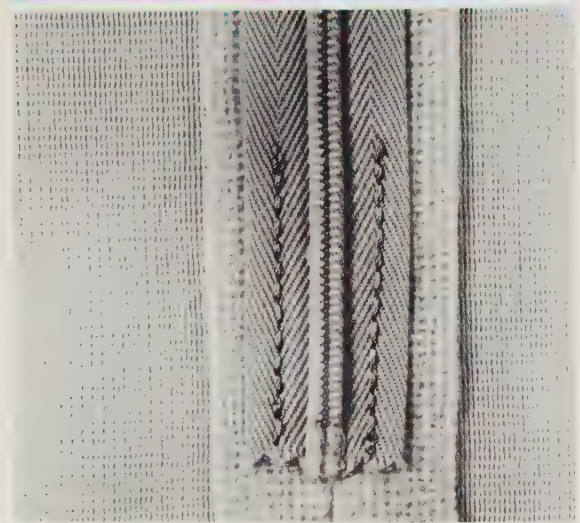
INVISIBLE ZIPPER: STEP 4



TALON CONSUMER EDUCATION

23-60 With right sides together, sew the rest of the seam. Begin 1/4 inch (.6 cm) above and slightly to the left of the previous stitching.

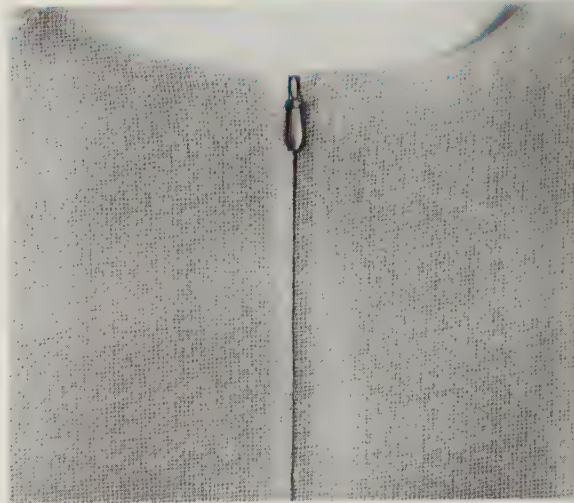
INVISIBLE ZIPPER: STEP 5



TALON CONSUMER EDUCATION

23-61 Stitch the ends of the zipper tape to the seam allowances for added stability.

INVISIBLE ZIPPER: STEP 6



TALON CONSUMER EDUCATION

23-62 Except for the pull tab, the invisible zipper looks like a regular seam.

allowances, as shown in 23-61. Sew only through the two layers.

In 23-62, you can see how the finished invisible zipper looks.

HEMS

When all other construction steps are done, press the garment and let it hang for a day. This will give it time to stretch to its final shape. Then it will be ready to *hem*. A hem produces a finished edge on a garment.

Hemming is one of the last steps in sewing a garment, but it is one of the most important. Whether the hemline is above the knee or at the ankles, it should be smooth, even, and almost invisible.

Marking a hem

Try on the garment with the undergarments and shoes you will wear with it. Jackets and belts should also be worn if they will be a part of the finished outfit.

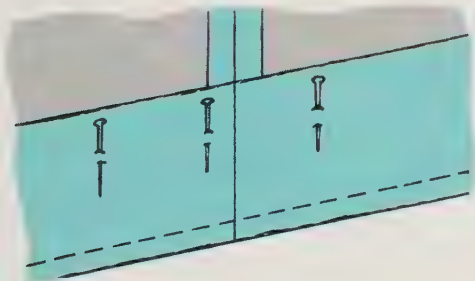
Stand in front of a long mirror, and test several different lengths. When you decide on the length that is best for you, mark it with a pin.

The easiest way to mark an even hem is to have someone help you. As you stand still, the other person can move around you. Use a skirt marker, yardstick, or meterstick. Measure from the floor to the desired hemline. Place pins parallel to the floor and about 3 inches (7.6 cm) apart.

Now is the time to double-check the length. Fold the fabric up at the marked line. Turn it inside the garment, and pin it. Is the hem parallel to the floor? Do you like the length?

Remove the garment. Move the pins so they are at right angles to the cut edge of the hem. Baste close to the hemline, as shown in 23-63. Match the seam lines in the hem to the seam lines in the garment.

Decide how wide the hem should be. The pattern pieces suggest a hem width. Use this as a guide. With a ruler or sewing gauge, measure the desired distance up from the hemline, 23-64. Mark the line with tailor's chalk. Cut along the marked line. Be careful to cut only the extra hem allowance; do not cut into the garment.

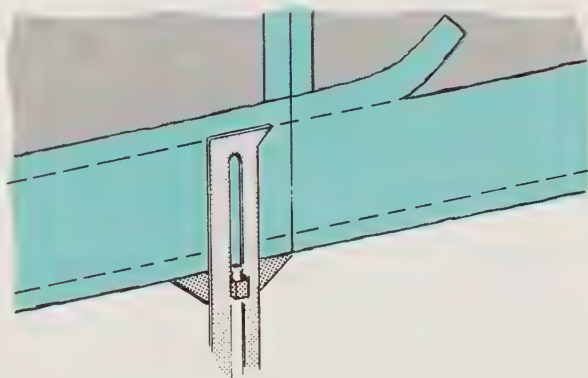


23-63 To hold the hem in place, insert pins at right angles to the cut edge of the hem. Baste close to the hemline.

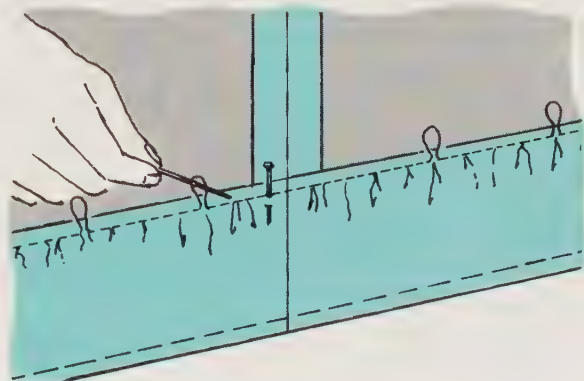
Removing extra fullness

When a garment is flared, the hem does not lie flat. The extra fabric puckers at the upper edge. This extra fullness must be eased in to fit flat against the garment.

To ease, machine stitch $\frac{1}{4}$ inch (.6 cm) from the cut edge. Turn the hem up. Pin the hem to the garment at each seam line. Pick up the bobbin thread with a pin. Pull up gently to slightly gather the fabric on both sides. See 23-65. Repeat this several times, until all extra fullness is gathered and spread evenly around the garment.



23-64 Mark the width of the hem with tailor's chalk. Cut off the extra fabric.



23-65 To ease in extra fullness, pull up gently on the bobbin thread. Repeat several times around hem.

The hem will look smoother if you remove some of the gathered fullness by shrinking. This is done with steam. Place a piece of brown paper between the hem and the garment to prevent press marks. Hold the iron slightly above the hem, letting the steam penetrate the fabric. Flatten the gathers with your fingers. Then press the hem.

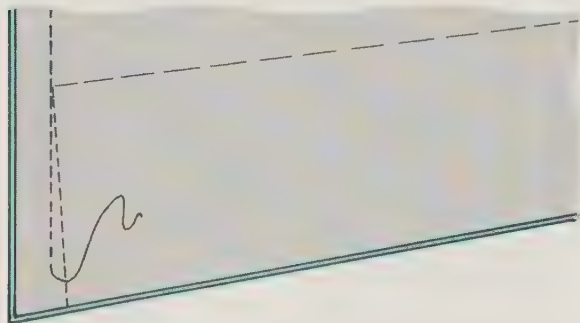
Some fabrics are difficult to ease and shrink. Remove the extra fullness in these by tapering the seam. See 23-66. Mark the hemline. Insert the sewing machine needle into the seam line slightly above the hemline. Sew along the seam line to the hemline. At the hemline, pivot slightly and angle the seam inward. Remove the original stitches, and trim the seam allowance. Then press seams open. Repeat this process on the other seams.

Finishing hems

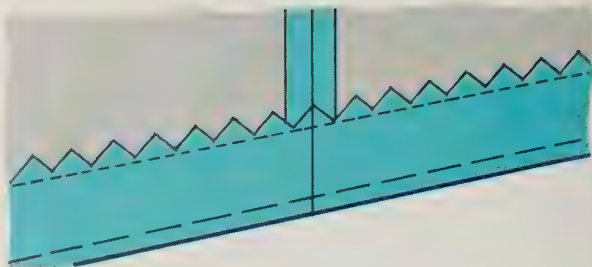
Hem finishes are much like seam finishes. The finish you use depends on the garment style and the fabric weight.

To finish fabrics that do not ravel, machine stitch $\frac{1}{4}$ inch (.6 cm) from the cut edge. Then *pink* the edge, as in 23-67.

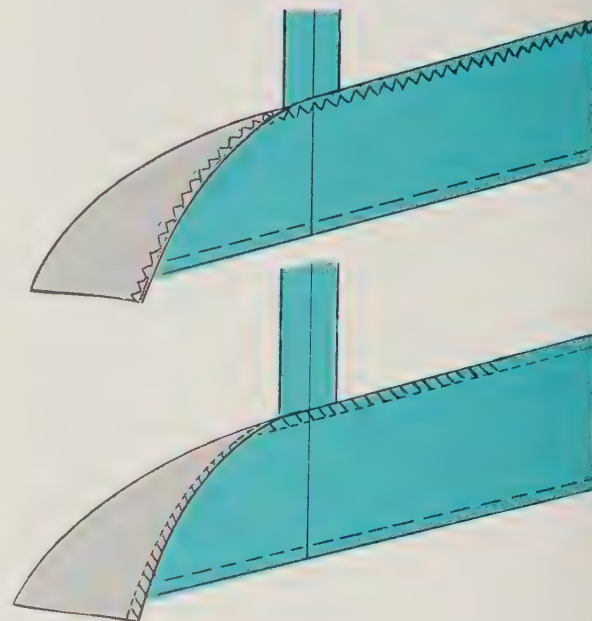
For fabrics that do ravel, *zigzag* or *overcast* the edge above a row of machine



23-66 You can remove extra fullness by tapering seams.



23-67 A pinked hem finish is best for fabrics that do not ravel.

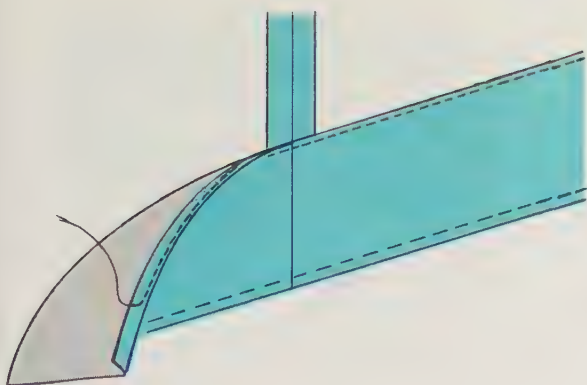


23-68 Zigzag and overcast finishes create flat hems.

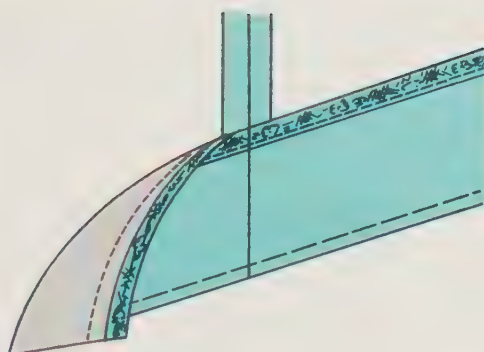
stitching, 23-68. This method gives a very flat hem. It is great for shirts and blouses that will be tucked into other garments.

Fabrics that ravel can also be finished in other ways. They can be *turned and stitched* as in 23-69. Turn edges under $\frac{1}{4}$ inch (.6 cm), and stitch close to fold. This method is bulky, so use it on straight hems of medium or lightweight fabrics.

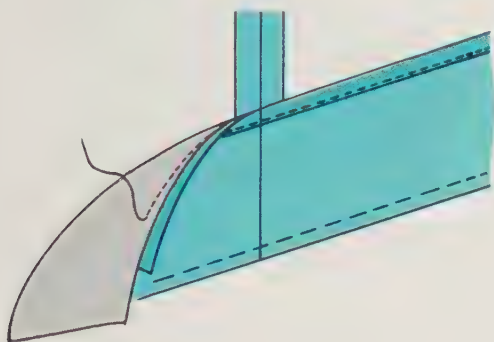
Seam binding is used for medium or heavyweight fabrics. It works best on



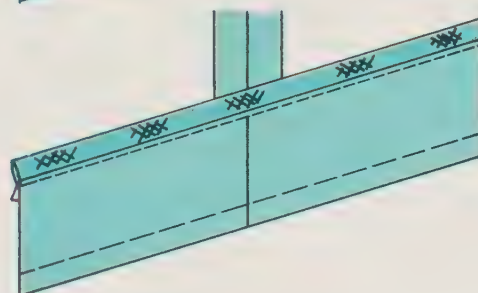
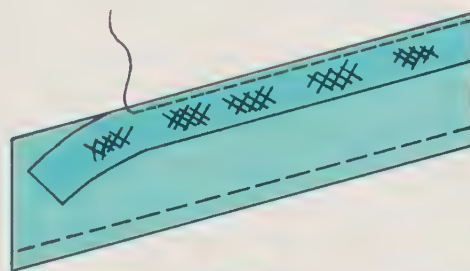
23-69 Medium or lightweight fabrics that ravel can be finished with a turned and stitched hem finish.



23-71 Stretch lace binding hem finish works well on curved hems.



23-70 Seam binding hem finish works best on straight hems.



23-72 Use the bias binding hem finish on medium and heavyweight fabrics.

straight hems. With the *right* side of the fabric up, lap the tape over the hem edge. Stitch 1/4 inch (.6 cm) from the cut edge of the hem, as shown in 23-70.

Stretch lace binding, 23-71, is used for medium and lightweight fabrics. Because it stretches, it works well on curved hems. Lap it over the *right* side of the fabric. Stitch 1/4 inch (.6 cm) from the cut edge of the hem. Use a straight stitch for woven fabrics and a zigzag stitch for knits.

Bias binding is used for fabrics that ravel a great deal. It is a bulky finish, so use it only on medium and heavyweight fabrics. Press the folds of the bias tape open. With

right sides together, sew a 1/8 inch (.3 cm) seam to join the tape and hem allowance, 23-72. Turn the tape up and over the cut edge of the hem. Stitch just below the new seam line, catching the loose edge of the bias binding.

Securing hems

Most hems are sewn into place by hand. To secure a hem with hand stitches, use a

fine needle with a single thread. Hold the garment so the hem is on top and facing you. Stitch from right to left if you are right-handed. Left-handed persons should stitch from left to right.

Space the stitches evenly for a neat look. They should be loose so the fabric does not pucker.

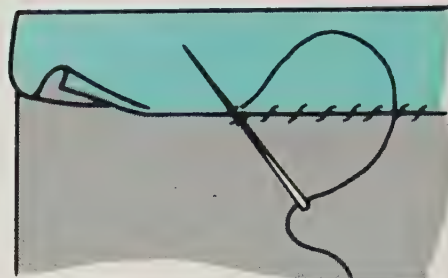
The *hemming stitch*, 23-73, is a strong stitch. It can be used for hems with almost any type of finish.

Secure the thread in the hem edge with a knot or small backstitch. Pick up a yarn from the garment. Then bring the needle straight up or at an angle through the hem. Move about 1/4 inch (.6 cm) to the left, and pick up another yarn from the garment. Repeat making stitches across the hem edge. When you reach the end of your thread, secure it with a backstitch in the hem edge and begin again.

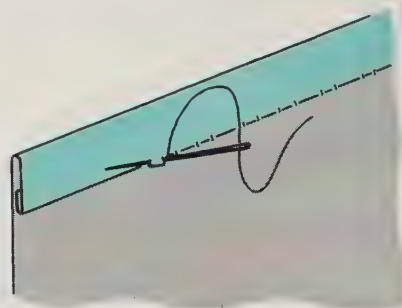
The *slip stitch* hardly shows on either side of the fabric. See 23-74. The thread is hidden under a fold along the hem edge. Since a fold is needed, this stitch is used for hems with a turned and stitched finish or a bias binding finish.

Secure the thread in the hem edge. Pick up a yarn from the garment. Bring the needle straight up and into the fold, then across about 1/4 inch (.6 cm) inside the fold. Next, bring the needle straight down, and pick up another yarn from the garment. Repeat around hem.

The *blind stitch* shows even less than the slip stitch. The thread is hidden from view because it lies between the hem allowance and the garment. This is an advantage because it prevents the thread from wearing and snagging. The stitches are loose to allow the two layers of fabric to move slightly without pulling.



23-73 The hemming stitch can be used with almost any type of hem finish.

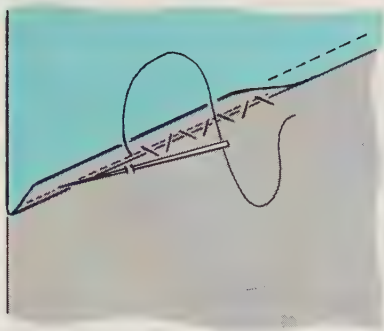


23-74 The slip stitch is used with a turned and stitched or bias binding hem finish.

Secure the thread in the hem edge. Fold the hem edge up, away from the garment, as in 23-75. Pick up a yarn from the garment. Move the needle diagonally up and to the left about 1/4 inch (.6 cm). Pick up a yarn from the hem allowance. Move the needle diagonally down and to the left, and pick up a yarn from the garment. Make the stitches loose. Repeat around hem.

Hems can be secured in other ways. Some sewing machines are equipped to sew a blind stitch. Check your machine's manual, and follow its directions.

Topstitching can be used to secure a hem. It can be used alone or combined with a hand stitch. It can be a single row of stitches or several rows sewn close together. Straight, zigzag, and decorative stitches can be varied for different looks.



23-75 The blind stitch prevents the thread from wearing and snagging.

A fusible material can also be used to secure hems. The heat of an iron causes it to melt and bond the hem to the garment. This method is quick and easy, but you need to take some special precautions when using it. Always follow the manufacturer's directions. Read the care label to be sure it can be cleaned the same way you will clean the garment. Check to see that the garment is the right length; this type of hem is permanent.

Test a piece of the fusible material on fabric scraps to avoid any problems later. The material should bond the two fabrics together completely. It should not change the color or texture of the fabrics.

Do not let the iron touch the fusible material. Once it melts onto the iron, it is difficult to remove. When you are ready to bond the hem, use a press cloth to protect the garment from the heat of the iron.

FASTENERS

A variety of fasteners are used to close garments. These include buttons, hooks and eyes, snaps, and hook and loop tape. Each can be used alone or in combination with other fasteners. Some are both serviceable and decorative. Your pattern will

recommend the type of fastener to use. Many times the choice will depend upon whether the opening edges are to meet or to overlap.

Buttons and buttonholes

Buttons and buttonholes have been used to close garments for many centuries. Buttons are not only functional, but decorative as well. They come in a wide variety of materials and colors. Buttons and buttonholes can be used when the opening is to be secured overlaps.

Buttonholes are always made before buttons are sewn into place. Usually they are made on the right front side in girls' and women's garments. On boys' and men's clothing, buttonholes are on the left front side.

Buttonholes are either bound or worked. In a *bound buttonhole*, the edges are finished with fabric. Bound buttonholes give tailored garments a custom-made appearance. In a *worked buttonhole*, the edges are worked over with thread by hand or by machine. Hand-worked buttonholes are often used on very loosely woven and lightweight fabrics. Machine-worked buttonholes are suitable for casual items of clothing that require frequent washings.

The length of the buttonhole you need depends on the size of your buttons. Measure both the diameter and the thickness of the button. The total of these two measurements is the length the buttonholes should be.

Markings for buttonholes need to be transferred from the pattern piece to the outside of the garment. The markings should be accurate and follow the grain of the fabric. Be sure that the marking method that you use does not leave a permanent

mark on your garment. Machine-basting, hand-basting, or tailor's chalk can be used. Mark the location and length of each buttonhole.

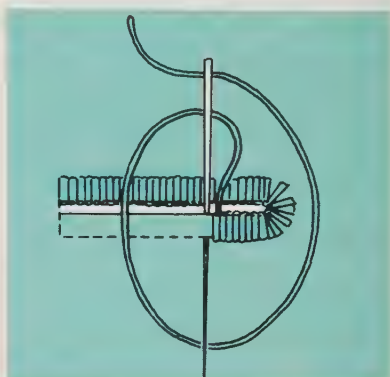
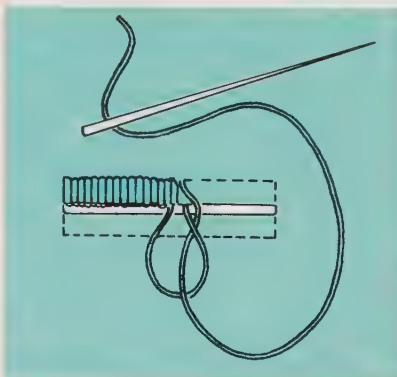
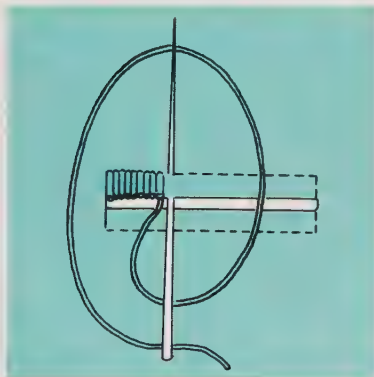
Most buttonholes are made by machine. On some machines, buttonholes can be made by adjusting the zigzag stitch. Other sewing machines have a built-in buttonhole setting. Special buttonhole attachments can also be purchased. Follow the directions provided with your machine or buttonhole attachment. Always make a sample buttonhole on a scrap of fabric before making one on your garment. Use small, sharp scissors to slash the finished buttonholes open. Begin in the center and cut toward each corner. A pin inserted at each end of the buttonhole will keep you from cutting too far.

Hand-worked buttonholes can be made using the buttonhole stitch. First machine stitch $\frac{1}{8}$ inch (.3 cm) on either side and across both ends of the buttonhole marking using a small stitch length. Carefully slash the buttonhole cutting from the center toward each end line. Secure the thread at the end of the opening. Insert the needle

through the slash and bring it out just outside the machine stitching line on the right side of the garment. Loop the thread under the end of the needle and the point of the needle. Pull the needle through the fabric so that a knot forms at the cut edge of the slash. See 23-76. Repeat this stitch around the edge and secure threads at the end.

Once the buttonholes are completed, the placement of the buttons can be determined. Pin the garment closed. For a horizontal buttonhole, push a pin through the buttonhole $\frac{1}{8}$ inch (.3 cm) from the outer end. For a vertical buttonhole, push a pin through $\frac{1}{8}$ inch (.3 cm) below the top of the buttonhole. The buttons should be attached where the pins enter the fabric.

Attach buttons using a double strand of thread. Sew-through buttons have two to four holes through which you sew. A thread shank is usually needed as space for the buttoned garment to lie smoothly. Shank buttons have an attached loop on the back that forms a shank. They need only a small thread shank. Instructions for attaching buttons are given on page 181. Some sewing machines will sew on buttons.



23-76 In hand-worked buttonholes, a knot or "purl" forms at the edge of the opening with each stitch.

Snaps

Snaps are used to hold overlapping edges together where there will be little strain. They are made of two sections, the ball half and the socket half. Snaps come in various sizes. Large, heavy snaps should be used on sportswear, coats, and jackets.

Place the ball half of the snap on the underside of the overlapping section. Using the buttonhole stitch, take three or four small stitches close together through each hole. Make sure stitches do not show on the right side of the garment. Carry the thread under the snap from hole to hole until all ball sections have been attached. Fasten the thread ends securely with a couple of stitches. See page 181 for an illustration.

To mark the position for the socket part of the snap, overlap the edges. Push a pin through the center hole of the socket part. Attach the socket part at this location using the buttonhole stitch. A pin inserted in the hole in the socket part of the snap will help hold the snap in place as you sew.

Hooks and eyes

Hooks and eyes are more secure than snaps. Use them on parts of garments where there is extra strain. Small sizes are often used at neck edges. Larger hooks and eyes are used on waistbands for pants, shorts, and skirts where there is more strain.

The eyes are either round or straight. Use a round eye when the two edges just meet. If the edges overlap, use a straight eye. Attach the hook on the inside of the garment just a slight distance from the edge so it does not show. Stitch around each hole using a buttonhole stitch or an overcast stitch. Make sure stitches do not go through to the

outside of the garment. Place a few stitches at the end of the hook to hold it flat against the fabric. Secure the threads.

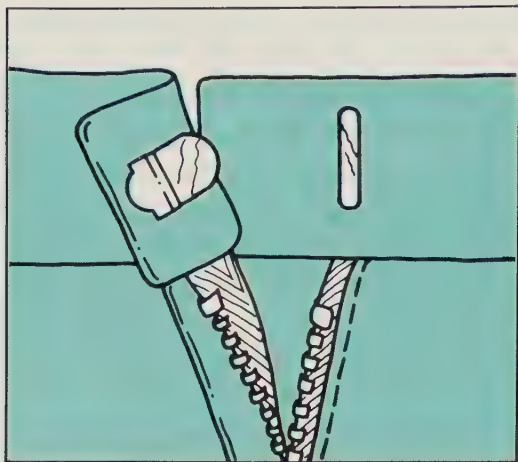
Place the round eye on the inside of the opposite edge so that the loop extends slightly beyond the edge. The garment edges should just meet when the hook and eye is fastened. The straight eye is sewn to the underlap part of the garment exactly opposite the hook. Sew the eye on as you did the hook. See page 181.

Trouser hooks and eyes are often used on the waistbands of jeans, pants, shorts, and sportswear, 23-77. They are very durable. They are sewn, clamped or hammered into the fabric. It is best to use them on firmly woven fabrics as they could damage lighter weight fabrics. To attach, follow the manufacturer's directions on the package.

Hook and loop tape

Hook and loop tape is used on edges that overlap. It consists of two strips of nylon fabric. One strip has tiny loops and the other strip is fuzzy. When the two strips are pressed together, they hold fast to one another. To open the garment, pull the two strips apart. The strips of tape can be cut to the desired length, shape, or size. Precut squares and circles can also be purchased. Hook and loop tape is often used on jackets, children's clothes, craft items, camping equipment, and household items.

Cut the tape to the desired size. Place the fuzzy side of the strip on the underneath side of the overlapping garment edge, 23-78. Stitch around all four edges by hand or machine. Place the looped side of the strip on the underlap so that the garment closes properly. Stitch in place through all fabric thicknesses.



23-77 *Trouser hook and eyes are good for use on sportswear and other clothes that take hard wear.*

PRESSING TECHNIQUES

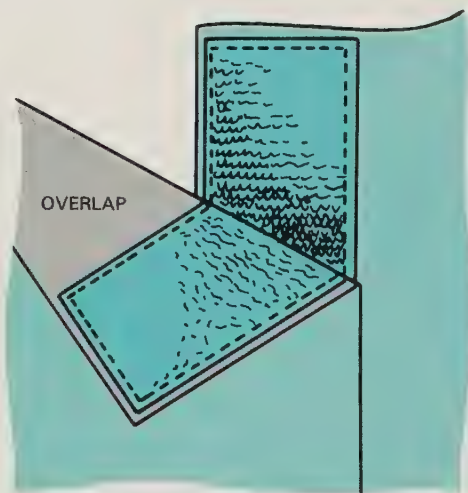
Good pressing techniques are as important as good sewing techniques. A carefully constructed garment will look better if you press as you sew. Press all seams and darts before they are crossed with other lines of stitching. Pressing of the completed garment will take less time and effort. The end result will be a professional-looking garment, 23-79. As you set up your machine to sew, set up your pressing equipment. This includes your iron, ironing board, pressing ham, and press cloth.

Remember that pressing is not ironing. *Pressing* is lifting the iron and setting it down again on the fabric. The heat, steam, and weight of the iron do the work. The iron is not moved back and forth, as in ironing. Pressing is usually all that is needed during garment construction. Ironing is

often done after laundering to remove wrinkles.

The temperature setting on the iron is determined by the fiber content of the fabric. Press a scrap of your fabric to check the temperature setting before you begin. If the iron sticks to the fabric or if the fabric puckers or melts, the temperature is too hot.

Press on the wrong side of the garment whenever possible. This will prevent a shine from appearing on the outside of the garment. Seams and darts can be easily pressed from the wrong side. If you must press on the right side, use a press cloth, especially with dark fabrics. A press cloth can be dampened if more steam is needed. Press with the fabric grain, in the direction of your stitching. Be careful not to stretch edges or curves out of shape. Do not press over pins. The soleplate of the iron could be scratched and the pins may leave an impression in the fabric.



23-78 *Place the fuzzy side of hook and loop tape on the underside of the overlap. Place the looped side on the underlap.*



THE McCALL PATTERN COMPANY

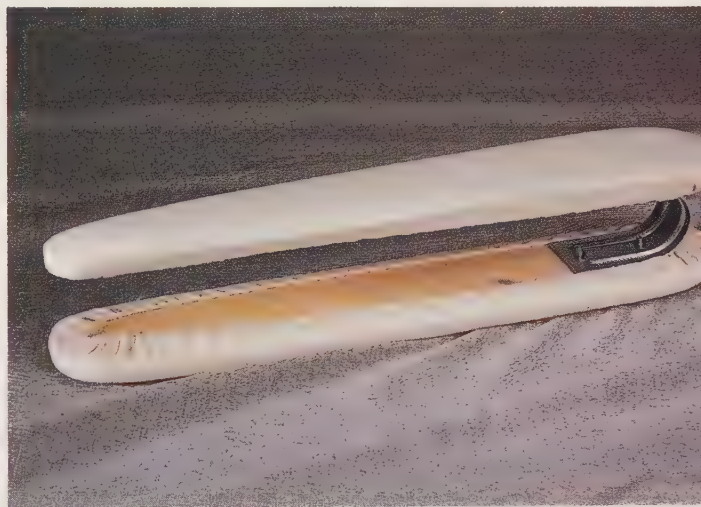
below the seam line by sliding the iron point up into the gathers. This will keep the gathers from being flattened and having a pleated look. Press the seam allowance away from the seam line with the point of the iron. Then press the seam allowances flat to reduce bulk.

Press curved seams and darts over a rounded surface such as a pressing ham. The pressing ham allows curved garment sections to lie smoothly against the firm, rounded surface. Sleeves can be pressed without creases when a sleeve board is used, 23-80. Never press any sharp creases in your garment until the fit has been checked.

23-79 Pressing as you sew will yield professional-looking results. With practice and experience, you can become an expert.

Use care when working with fusible fabrics. If the adhesive comes in contact with the iron, it will melt and stick to it. This can be difficult to remove from the iron. Ironing over a piece of waxed paper will help restore the smooth surface.

Pressing gathers requires extra care. Place the garment over the end of the ironing board, wrong side up. Press the gathers



JUNE TAILOR, INC.

23-80 A sleeve board allows you to press sleeve seams open without forming creases.

to know

adjustment lines	interfacing
backstitching	ironing
basting	off-grain
bound buttonhole	preshrunk
clean-finish	pressing
clipping	seam
darts	seam allowance
directional stitching	selvages
easing	staystitching
facings	trimming
gathers	true bias
grading	understitching
grain	worked buttonhole
hem	zipper foot
hook and loop tape	

to review

1. How can you find the lengthwise, crosswise, and bias grains of a fabric?
2. Why should the fabric grain be straight before you pin and cut out a garment?
3. Why should alterations be made in pattern pieces rather than in your garment?
4. List three fabric folds that pattern layouts sometimes suggest.
5. When pinning a pattern to fabric, pin:
 - a. At right angles to cutting lines.
 - b. Parallel to cutting lines.
6. _____ is a good way to mark both the right and wrong sides of a garment piece.
7. Which seam would you use for a sheer fabric that ravels easily?
 - a. Plain.
 - b. Flat fell.
 - c. Welt.
 - d. French.
8. Press seam open. Turn edges under 1/4 inch (.6 cm). Stitch close to fold. These are the directions for the _____ seam finish.
9. Name two reasons for using interfacing.
10. Explain one way of sewing a zipper into place.

11. Describe the hem finish you would use on a shirt or blouse that will be tucked into another garment.

12. The blind stitch is often used to secure a hem. Explain how it is done.

13. Which type of fastener would you use for an edge that just meets?

14. List two guidelines to follow when pressing during the construction of a garment.

to do

1. Pull along the lengthwise, crosswise, and true bias grains of a woven fabric. Notice that the lengthwise grain stretches the least.

2. Practice adjusting the length of patterns. Lengthen one pattern piece at the bottom edge. Shorten a different piece between the adjustment lines. (Undo all practice alterations before using the pattern pieces!)

3. Discuss advantages of studying a pattern before you begin using it.

4. On a fabric scrap, test three different ways of marking.

5. Practice using the sewing machine. Learn to start and stop, sew straight, sew around curves, turn corners, and backstitch.

6. Practice directional stitching. Cut diagonally across two fabric scraps. Stitch up one of the edges. Stitch down the other edge. Compare.

7. Ease one edge of a fabric scrap. Gather the opposite edge.

8. Test each type of seam on one type of fabric. Which seam looks best?

9. Use three different methods to sew a zipper in fabric scraps.

10. Practice securing a hem.

11. Tom needs 2 1/2 yards (2.3 m) of fabric for a shirt. How much will it cost at \$4.29 per yard (.9 m)?



Chapter

24

Advanced Sewing Skills

After studying this chapter you will be able to

- identify various types of collars, sleeves, pockets, waistline treatments, and casings.
- construct various types of collars, sleeves, pockets, waistline treatments, and casings.
- attach a collar with or without a facing.
- describe how elastic is used when constructing garments.
- list special techniques for sewing with knits and pile fabrics.

After you have become successful in making simple garments, you may be ready to construct something that is more difficult and detailed. Advanced sewing skills can enable you to make items that feature collars, sleeves, and pockets. Advanced sewing projects may include waistbands, faced waistlines, and casings. Some fabrics are more difficult to sew than others. These require special handling techniques. Learning these advanced sewing skills will enable you to make many styles of shirts, blouses, slacks, and jackets. These garments may take longer to construct, but you'll feel a sense of pride and accomplishment when you have completed your project.

COLLARS

Collars are used on all types of garments. You'll find them in a variety of shapes and sizes. Since collars are close to the face, it is important that they be well made and fit properly. In a well-made collar, both sides of the collar should be identical. Curves should be smooth and points precise. The

underside of the collar should not show along the edge.

There are three basic types of collars: flat, rolled, and standing, 24-1. The *flat collar* lies flat against the garment. It is used on dresses, blouses, and children's clothing. The flat collar is sometimes called a Peter Pan collar or a shaped collar. The notched edge of the collar is almost identical to the shape of the neck edge of the garment. This shaping allows the collar to lie flat. The upper and lower collar pieces are cut from the same pattern.

The *rolled collar* stands up from the neck slightly and then forms a roll around the neck. Separate pattern pieces are used for the upper and lower layers of the collar. The undercollar is usually cut slightly smaller, in two pieces, and on the bias. This causes the collar to form a roll.

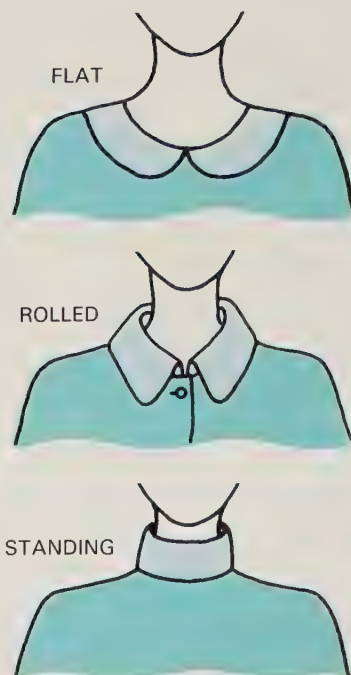
The *standing collar* stands up from the neck edge of the garment. It is also known as a band collar or mandarin collar. It may fold over for a turtleneck style. The standing collar may be cut from either a shaped or a straight piece of fabric. If the collar is to turn over, it is cut on the bias.

Shirt collars are sometimes called standing collars. They consist of two pieces: a collar and a neck band. Both are usually interfaced. The collar is first attached to a band and then the band is attached to the shirt.

Constructing a collar

Most collars are sewn together before they are attached to garments. Though collar styles vary, most are constructed in the following manner.

Collars need the support provided by interfacing. Trim off corners of interfacing on pointed collars before attaching. This



24-1 The three basic styles of collars are flat, rolled, and standing.

will reduce bulk in the points. Either stitch or fuse the interfacing to the wrong side of the under collar. Trim the interfacing close to the stitching.

Pin the right sides of the collar pieces together. Stitch along the unnotched edge. Leave the notched edge open so the collar can be turned right side out. Reinforce corners and curves with shorter stitches. Trim and grade the seam allowances. Clip at curves. Understitch the under collar to the seam allowances. This will prevent the under collar from rolling out at the seam line and showing along the edges. Turn to the right side and press. Machine baste the notched edges of the collar together.

Attaching a collar

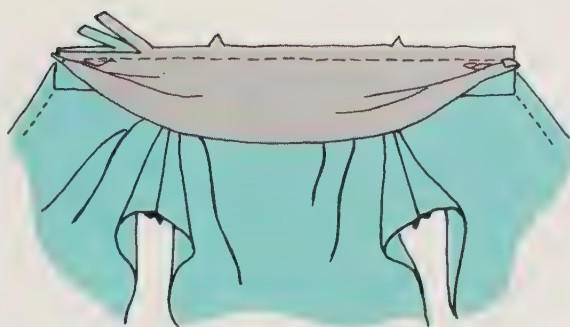
There are several different methods used to attach the collar to the garment. Most

collars are attached using either a full fitted facing, a partial facing, or no facing at all. Facings hide the neckline seam allowances. When there is no facing, the collar is attached so that the garment neckline seam allowances are between the layers of the collar. Specific directions for attaching collars are given on your pattern guide sheet.

When attaching a collar using a *full fitted facing*, first prepare the facing as described in Chapter 23. The neckline edge of the garment should be staystitched and clipped. Pin the collar to the neck edge matching notches and other markings. Machine baste the collar in place stitching just inside the seam line.

Pin the facing over the collar with right sides together. Match notches and other markings. Stitch through all thicknesses. Trim, grade, and clip the seam allowances. Understitch the facing to the seam allowances. See 24-2. Press the collar and facing. Tack the facing edge to the shoulder seam allowances.

A standing collar is usually attached with *no facing*. When attaching a collar without a facing, follow these steps. Clip the neck



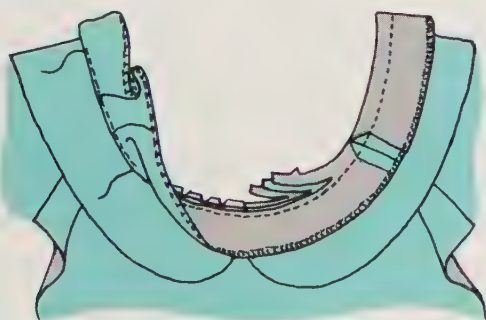
24-3 Be careful not to catch the other layer of the collar in the stitching line.

edge of the garment to the staystitching. Pin the right side of the collar to the garment neck edge, leaving the other layer of the collar free. Match notches and other markings. Stitch, grade, and clip the seam. See 24-3. Press the seam allowances toward the collar. Press under the seam allowance on the free layer of the collar and trim to 1/4 inch (.6 cm). Pin the folded edge over the neckline seam. Stitch the folded edge in place by hand using a slip stitch.

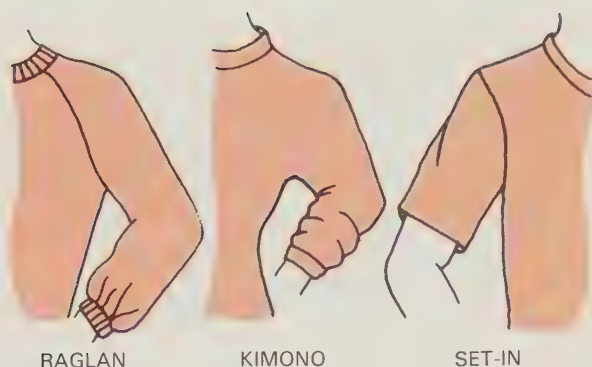
SLEEVES

There are many different styles and lengths of sleeves. The three most common styles are kimono, raglan, and set-in, 24-4. *Kimono sleeves* are formed as continuous extensions out from the shoulder area with no seam line connecting the garment and sleeve.

Raglan sleeves are attached to the garment by front and back diagonal seams from the underarm to the neckline. Shoulder shaping is created by a curved seam or a shaped dart. Raglan sleeves are a good choice for hard-to-fit shoulders. The seams can be adjusted for differences in body shape.



24-2 After stitching the facing to the neckline edge, trim, grade, and clip the seam allowances. Understitch the facing to the seam allowances.



24-4 Most sleeves are variations of these three basic styles.

Set-in sleeves are attached to the garment with a seam that goes around the armhole at the tip of the shoulders. The area of the sleeve at the end of the shoulders must be shaped and curved to fit smoothly over the arms. The set-in sleeve is larger than the armhole to which it is joined. This allows the arm to move freely. Some set-in sleeves are styled with a great deal of fullness that is gathered and then attached to the armhole edge. Other styles require the sleeve to be eased into the armhole. This creates a smooth appearance with no visible gathers. Set-in sleeves are the most difficult to sew of the three styles.

Kimono sleeves

To make a kimono sleeve, pin the garment front and back together at the underarm and side seams. Match markings and notches. Beginning at the lower edge of the garment, stitch the seam line. Try not to stretch the fabric around the curve. Reinforce the underarm seam by stitching again around the curved area just outside the seam line, 24-5. Clip the seam at the curve and press the seam open. Your pattern guide sheet may ask you to further rein-

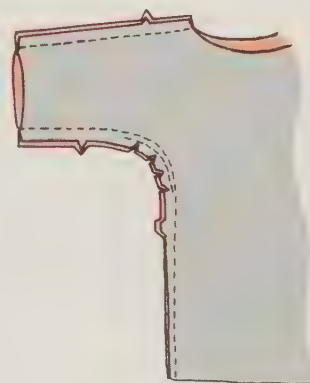
force the seam by sewing a strip of seam binding or bias tape into the seam line. Follow the instructions given on your guide sheet.

Raglan sleeves

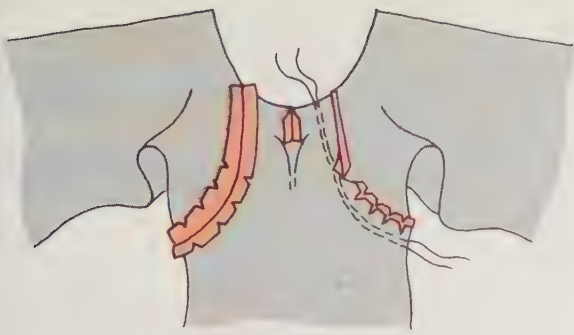
The first step in sewing a raglan sleeve is to stitch the shoulder dart. Slash the dart and press it open. With right sides together, pin the diagonal seams of the sleeves to the garment, matching notches. Stitch each seam, and then stitch the seam again just outside the first row of stitches to reinforce the seam. Clip the seam below the notches and press the seam open. See 24-6. Finally, stitch the entire underarm and side seam.

Set-in sleeves

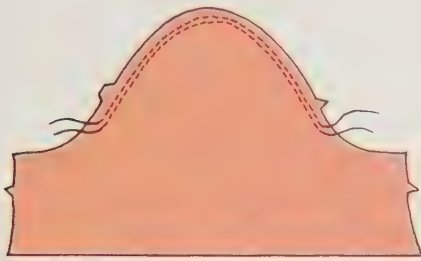
Set-in sleeves can be sewn to the garment in two ways. They can be joined to the garment before the underarm sleeve seams and side seams are sewn. They can also be joined to the garment after these seams are sewn. Your pattern guide sheet will indicate the best method to use. However, you may find that you prefer one method over the other.



24-5 Kimono sleeves need to be reinforced at the underarm curve.



24-6 The diagonal seams in the raglan sleeve are clipped and pressed open before the underarm seam is joined.



24-7 Machine basting the sleeve cap allows you to ease in the extra fullness.

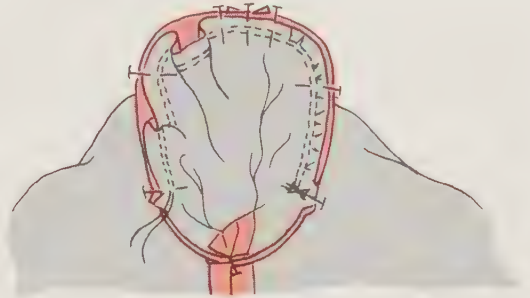
To set in the sleeves after the seams are sewn, follow these steps. First construct the sleeve. The excess fullness must be eased in. To do this, machine baste two rows of stitches around the sleeve top between the notches, 24-7. Stitch one row just outside the $\frac{5}{8}$ inch (1.6 cm) seam line. Stitch the other row $\frac{3}{8}$ inch (.9 cm) from the edge. Leave a couple of inches of thread at the end of each row of stitching. Next, stitch the underarm seam and press open.

With the garment wrong side out and the sleeve right side out, slip the sleeve into the armhole. Pin right sides together at the markings, notches, and underarm seam. Pull up the basting threads until the sleeve fits the armhole, 24-8. Adjust the fullness

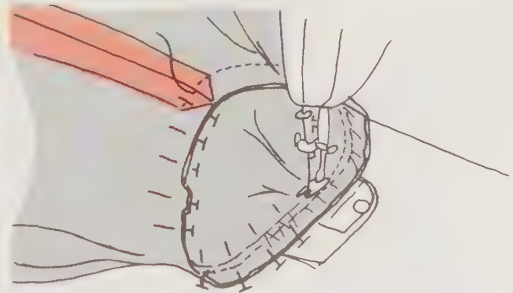
evenly between the notches and markings. Pin about every $\frac{1}{2}$ inch (1.3 cm).

With the sleeve side up, stitch the sleeve to the armhole, 24-9. Stitch carefully to avoid puckers or tucks. Make a second row of stitching between the notches in the underarm area to reinforce the seam. Stitch $\frac{3}{8}$ inch (.9 cm) from the edge. Trim the seam allowances in the underarm area only. Press the seam allowances together and then turn them toward the sleeve. Do not press the sleeve seam along the cap area after the sleeve is set in.

Set-in sleeves can also be joined to the garment before the side seams and underarm seams are sewn. This method is best used for sleeves that fit smoothly and



24-8 Pull the basting threads until the sleeve is eased against the armhole edge.



24-9 Carefully stitch the sleeve into the armhole to avoid tucks and puckers.

have little fullness to be eased in to the armhole. Shirts are often made in this manner.

Machine baste the sleeve cap area if your pattern guide sheet suggests that you do so. Some sleeves can be attached without machine basting. With right sides together, pin the sleeve to the armhole matching notches and ends. Adjust fullness if necessary. Stitch the seam with the sleeve side up. Press seam allowances toward the sleeve. Your pattern may suggest topstitching the seam. If so, press the seam allowances toward the garment. See 24-10. Topstitch close to the seam line. Finally, stitch the entire underarm and side seam.

POCKETS

Pockets are a very important feature in many garment designs. They are not only decorative, but also functional. Because they may be a prominent design feature, it is important that they be constructed well.

There are many different types of pockets. *Patch pockets* are made from fabric pieces that are stitched on the outside of a garment. These are often used on shirts, blouses, skirts, pants, and shorts. Pockets that are sewn in the side seam of

a garment are called *in-seam pockets*. If they are made properly, they do not show when the garment is worn. A variation of the in-seam pocket is the *front hip pocket*. This is an angular pocket often used on the front of pants and skirts.

Patch pockets

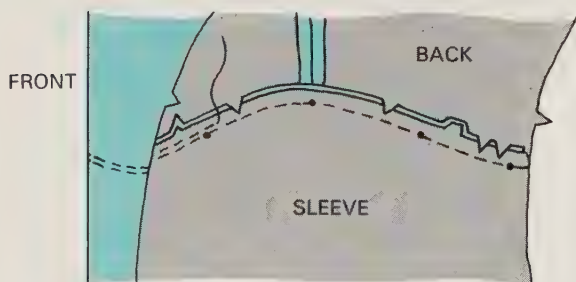
Patch pockets can be made from the same fabric as the garment or of a contrasting fabric. Most pockets are unlined, but if the fabric is thin and soft, you may want to line the pockets.

To make an unlined patch pocket, first finish the top edge of the pocket. For light-to medium-weight fabrics, turn under 1/4 inch (.6 cm) along the top and stitch to form a hem. For heavier fabrics, zigzag or serge the hem edge. Turn the hem to the right side along the fold line. Stitch ends on the seam line and trim, 24-11.

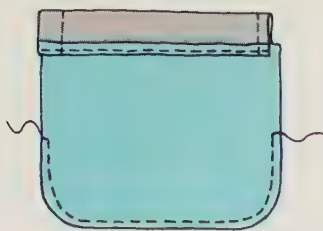
If the pocket has rounded edges, machine baste 3/8 inch (.9 cm) from the curved edges. See 24-11. Pull up the threads until the seam allowance curves in and lies flat against the pocket. Trim and notch the seam allowance to reduce bulk and avoid puckers. Press the pocket.

For a square patch pocket, staystitch around the pocket on the seam line. This forms a guide for turning and pressing the edge of the pocket before it is attached to the garment, 24-12. Next, press the corners diagonally to the wrong side. Trim the corners. Then press all seam allowances under along the staystitching line, mitering the corners to form sharp points.

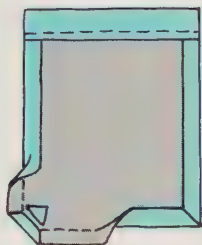
You are now ready to attach the patch pocket to the garment. Pin the pocket to the outside of the garment on the marking line. Stitch the pocket to the garment close to the edge of the pocket. Backstitch at the



24-10 Set-in sleeves can be attached before underarm seams are sewn.



24-11 *Trim the seam allowance on the hem of the patch pocket. Machine baste the curved edges.*



24-12 *To form a straight edge on the sides of a square patch pocket, staystitch on the seam line. Press under along the stitching line, trimming and mitering the corners.*

upper corners to prevent the pocket from pulling loose. The pocket can also be topstitched to the garment, stitching 1/4 inch (.6 cm) from the edge, or sewn on with hand stitches.

In-seam pockets

In-seam pockets are the simplest pockets to make. They are either cut from a separate pattern piece or are an extension of the garment front and back. Cut separate pattern pieces from lining fabric to reduce the bulk and give a flatter look.

To make an in-seam pocket, stitch the pocket to the front and back if the pockets are separate pieces. Press the seam allowances toward the pockets. Pin the back to the front at sides, matching notches and markings. Pin pocket edges together.

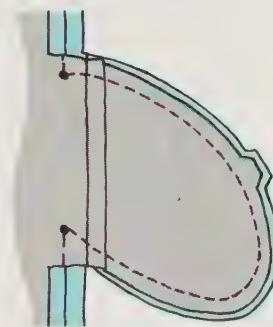
Stitch the side seam and around the pocket. Clip the back seam allowance above and below the pocket, 24-13. Press the garment seam allowances open. Press the pocket seam allowances flat. Turn the pocket toward the front and press lightly at the pocket opening.

Front hip pockets

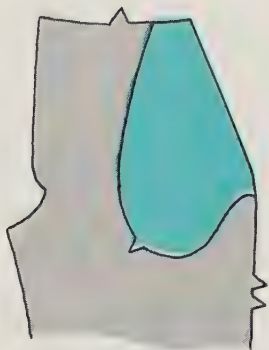
Many jeans, pants, shorts, and skirts have partially hidden hipline pockets sometimes called slant pockets or Western pockets. Front hip pockets include two different pieces. The back portion forms a part of the garment that is attached at the waist and side seams. The other piece is the pocket facing which finishes the opening edge.

To make the front hip pocket, first stitch a piece of seam binding along the upper side edge of the front. This will prevent the pocket from stretching. Then stitch the pocket facing to the upper side edge of the front, right sides together. Trim the seam, being careful not to cut the seam binding. Turn the pocket to the inside and press, 24-14. Topstitch the seam if desired.

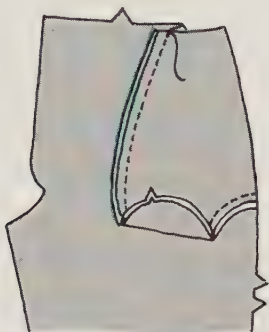
Stitch the back portion of the pocket to the pocket facing, right sides together. Keep



24-13 *Clip only the back seam allowance above and below the pocket so the seam can be pressed open.*



A. Attach the pocket facing at the pocket opening.



B. Sew the back portion of the pocket to the pocket facing.



C. Baste the pocket in place along the seam lines and complete the garment.

24-14 To make a front hip pocket, follow these steps.

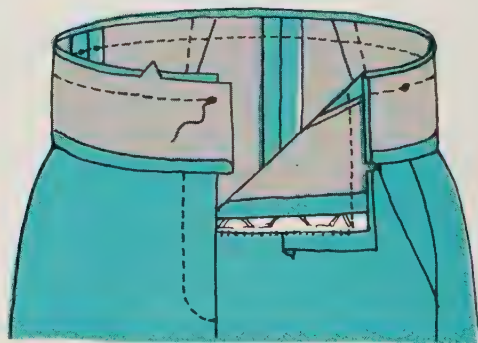
the front free as you stitch. Press the pocket. Baste the upper and side edges of the pocket to the garment along the seam lines. Stitch the front to the back along the side seams.

WAISTLINE TREATMENTS

The waistline edge of pants, shorts, and skirts must be finished in some way. The three most common ways of finishing waistlines are with a waistband, a facing, or a casing. A *waistband* is a strip of fabric attached at the waistline edge of the garment. It may be straight or curved and is visible above the waistline. A *waistline facing* is a curved piece of fabric attached at the waistline edge that folds to the inside of the garment. It is not visible above the waistline. A *casing* is a fabric piece that encloses a drawstring or elastic that draws the garment snugly against the figure. Casings will be discussed later in this chapter.

Waistbands

When the garment you are making includes a waistband, follow these construction steps. First prepare the waistband. Interfacing should be attached to the waistband to prevent it from stretching and rolling over when the garment is worn. Baste the interfacing to the waistband as your pattern guide sheet explains. A fusible interfacing can also be used. Press under the



24-15 Baste or fuse interfacing to the waistband. With right sides together, stitch the band to the waist.

seam allowance on the long unnotched edge of the band and trim to 1/4 inch (.6 cm).

With right sides together, pin the band to the waistline edge, 24-15. Match notches, seams, and other markings. Ease to fit if necessary. Stitch, trim, and grade the seam. Clip if it is a curved seam. Press the seam allowances toward the waistband.

You are now ready to stitch the ends of the band. With right sides together, fold the waistband along the foldline. See 24-16. Match the folded edge of the band exactly with the seam line. Stitch across the ends. Trim the seams and corners to reduce bulk. Turn the band right side out and press.

Pin the free folded edge of the band over the waist seam line. Slip stitch the entire band in place by hand making sure stitches do not show on the outside of the garment.

Sometimes a pattern will feature a waistband that is topstitched on the outside of the garment. The steps for attaching a waistband in this manner are similar to the steps given above. However, when you first sew the waistband to the garment, pin the *right* side of the band to the *wrong* side of the garment. The long folded edge of the band will later be brought to the right side

of the garment. Then, after pinning the folded edge over the seam line, stitch close to the folded edge of the waistband.

Waistline facings

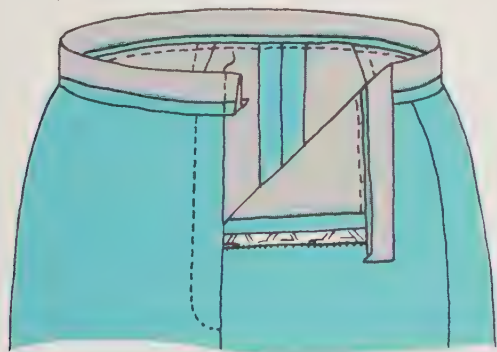
A facing may be used to finish the waistline edge of a garment. Interfacing should be used to reinforce the waist area. It can be sewn to the facing pieces, or to the waistline edge of the garment. Your pattern may also suggest that seam binding or tape be used to prevent stretching. It should be placed over the seam line on the inside of the garment. Machine baste in place on the seam line.

Prepare the facing by joining the side seams and finishing the unnotched edge as described in Chapter 23. Pin the facing to the garment, right sides together. Stitch, easing the garment to fit. Trim, grade, and clip the seam. Press the seam allowances toward the facing. Understitch the seam allowances to the facing. Turn the facing to the inside and press. Tack the facing to the seam allowances with a few hand stitches. Turn under the ends of the facing and hand stitch in place.

CASINGS

Casings, fabric pieces that are used to enclose drawstrings or elastic, are often found in sportswear. Shorts, skirts, slacks, sweats, and swim trunks often use casings at the waistlines. Casings are also used at sleeve edges on shirts and dresses and hemlines on sweat pants. Necklines sometimes feature casings. Casings are comfortable to wear because they easily adapt to the shape of the body.

Casings are quick and easy to make. They are generally made one of two ways.



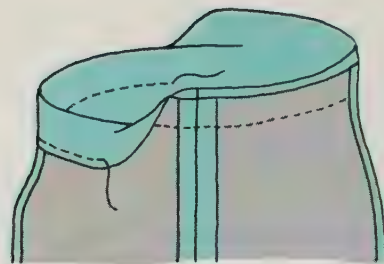
24-16 With right sides together, fold the waistband along the foldline. Stitch the ends and trim.

A casing that is formed by turning back the edge of the garment piece is called a *self-casing*. When a separate piece of fabric or bias tape is attached to the garment to form the casing, it is called an *applied casing*.

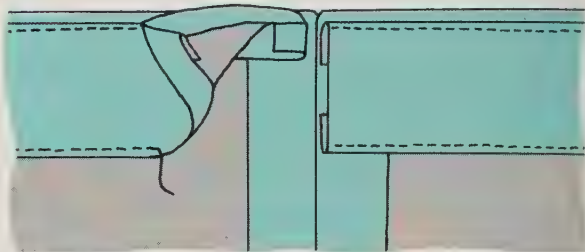
To make a self-casing, turn under 1/4 inch (.6 cm) along the casing edge of the garment and press. (The amount to be turned under may vary. It will be specified on your pattern guide sheet.) If the fabric is bulky, finish the raw edge with a zigzag stitch or overedge using a serger. Turn the casing edge to the inside along the foldline and press again, 24-17. Stitch close to the inner edge, leaving an opening to insert the drawstring or elastic. Your pattern may suggest that you also stitch close to the upper edge.

If an applied casing is to be used along the edge of a garment, follow these steps. With right sides together, pin the casing to the garment. Turn in the ends. Stitch in a 1/4 inch (.6 cm) seam. Press the seam allowance toward the casing and understitch. Fold the casing to the inside. Turn under 1/4 inch (.6 cm) along the raw edge of the casing, or zigzag or serge the edge. Stitch the edge of the casing to the garment leaving an opening for the elastic. See 24-18.

Sometimes a pattern may call for a separate band at the waist or sleeve openings. Elastic is inserted into the band. This method is often used with knit fabrics. The serger can be used with this method. First stitch the band into a circle. Then press in half lengthwise, wrong sides together. Divide the band into quarters and mark with pins. Pin the band to the garment, right sides together. Match seams and markings. Serge the band to the garment leaving an opening to insert the elastic.



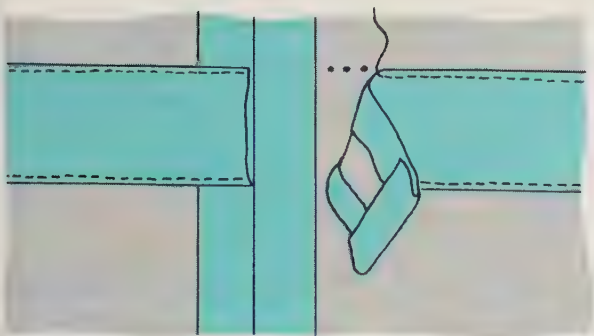
24-17 For a self-casing, turn the casing edge to the inside and stitch close to the edge.



24-18 An applied casing is stitched to the garment edge. It is then folded to the inside and stitched again.

A one-piece dress or jacket may call for an applied casing using a strip of bias fabric or bias tape. If you are using a strip of fabric, turn under the long edges of the casing 1/4 inch (.6 cm) and press. Bias tape is already folded along both sides. Pin the casing in place following the markings on the pattern. Turn in the ends of the casing so the edges just meet. Stitch close to both long edges of the casing, 24-19. Leave the ends open to insert the elastic or drawstring.

Inserting elastic. Once the casing is sewn, elastic is usually inserted. Elastic is available in different types and widths. In selecting elastic for a casing, choose one that is about 1/4 inch (.6 cm) narrower than the casing width. This will allow room for the elastic to be inserted easily. If the elastic



24-19 *A bias strip of fabric or bias tape may be sewn on to form a casing on one-piece dresses or jackets.*

is too narrow, it will twist and roll inside the casing. Your pattern envelope will recommend the type and size of elastic to use.

To determine the length of elastic to use, hold a piece of elastic around the body where the casing is to be located. Pull the elastic snugly, but not too tight. Add 1 inch (2.5 cm) to this length to overlap the ends of the elastic.

Insert the elastic through the casing. This can be done by fastening a safety pin to one end of the elastic. Insert the pin into the casing opening and work the pin through to the other end. Leave several inches of elastic extending from each end. Overlap the ends 1/2 inch (1.3 cm) and pin together with the safety pin. Try on the garment to check the fit and adjust if needed. Zigzag or straight stitch several times across the overlapping ends of the elastic. Stitch the opening in the casing.

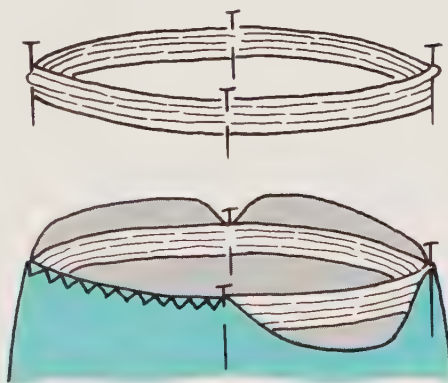
Elastic is sometimes attached directly to a waistline, sleeve, or pant leg edge. The elastic is then folded inside to form a casing. This is a good method to use with knit fabrics. A serger makes the technique especially easy and quick.

Cut a piece of elastic to the desired length. Overlap the ends and stitch securely. Divide the elastic into four sections and mark with pins, 24-20. Also divide the garment edge into four sections and mark with pins. Place the elastic on the wrong side of the garment with the edges even. Match the pins and pin in place. Serge or zigzag the elastic to the garment. Stretch the elastic to fit the garment as you sew. Turn the elastic and casing to the inside. Using a straight stitch, sew through the casing, elastic, and garment. Again, stretch the elastic as you sew.

SEWING WITH KNITS

Clothes made of knit fabrics are popular among teens. Knits are comfortable to wear and easy to maintain. Because knitted fabrics stretch more than woven fabrics, they are ideal for activewear.

There are many different types of knits available. There are lightweight knits such as single knits, jerseys, and tricots. These



24-20 *To attach elastic directly to a garment edge, first divide the elastic into four sections. Divide the garment edge into four sections also. Match the pins and stitch the edges together.*

knits stretch more crosswise than lengthwise. They are suitable for softly styled garments with fluid lines, 24-21. Medium weight knits such as cotton knits and wool jerseys are used mainly for sportswear. Heavier knits include double knits and sweat shirt knits. These stretch very little and hold their shape well. Select the weight and type of knit recommended for your pattern.

Sewing with knits requires some special handling techniques. It is best to wash knits before cutting. Even if the fabric is pre-shrunk, excess sizing should be removed. Sizing can cause your sewing machine to skip stitches. Steam out any center fold lines.

When pinning and cutting, lay knits on a large, flat surface. The fabric will stretch if allowed to hang over the edge. Though knits have no grain, locate lengthwise ribs in the fabric. Make certain grainline arrows follow these ribs. Use the “with nap” pattern layout to avoid any color differences in the finished garment. Use very sharp shears for cutting to avoid snags. Make sure pins are sharp also. When marking, use chalk, marking pen, or tailor’s tacks. Tracing wheels can snag knits or leave permanent markings.

Your sewing machine should have a ball-point needle. Ball-point needles gently separate the yarns as they enter the fabric. Pointed needles pierce the yarns causing runs. Make sure the needle is sharp. Dull needles can cause snags, runs, and skipped stitches. Select a needle size appropriate for the weight of the fabric. Lightweight knits use lower numbers (No. 9 or 11) than heavier weight knits (No. 14 or 16). Thread should have some elasticity to prevent stitches from breaking. Choose all-purpose



PINEAPPLE APPEAL

24-21 Clothes made of knit fabrics are popular among teens. Using a serger and special handling techniques helps you make a very professional looking garment.

polyester or cotton-wrapped polyester thread.

Seams in knits should have some stretch to them. This prevents the stitches from breaking. Use one of the following methods. If you use a straight stitch, stretch the seam slightly as you sew. Stitch on the seam line. Then stitch again 1/4 inch (.6 cm)

from the seam line in the seam allowance. Trim close to the second stitching. A second method is to use a narrow zigzag stitch. Trim the seam to 1/4 inch (.6 cm) and then zigzag or overcast the edge.

The serger machine is ideal to use with knits. It is fast and easy. The machine sews the seam, trims the seam allowance, and overcasts the edge in one motion. The 3-thread or 3/4-thread overlock stitches are good ones to use.

Some seams, such as at the shoulder or waistline, should not stretch. These seams should be stabilized by sewing twill tape or seam binding into the seam. Topstitching will also stabilize seams. Apply fusible interfacing in the button and buttonhole areas. This prevents stretching and gives needed stability.

Before hemming your garment, allow it to hang for a day or so. Any stretching will occur before you sew the hem. There are several ways to hem knits. On sportswear, topstitching or a zigzag stitch give a casual look. A serger can be used to create an overedged hem. If hand sewing is your choice, the catchstitch allows for the greatest give.

SEWING WITH PILE FABRICS

A *pile* fabric has ends or loops of yarn extending above the surface of the fabric. Terry cloth is a pile fabric with a looped

surface. If the loops are cut, it is called a cut pile fabric. Examples of cut pile fabrics are corduroy, velvet, and velour. This pile creates a nap on the fabric. A *nap* is a layer of fiber ends above the fabric surface. The nap lies in one direction on a pile fabric. If you run your hand in the direction of the nap, it will feel smooth. If you stroke your hand in the opposite direction, it will feel rough. This texture affects the color of the napped fabric. When you sew with napped fabrics it is important that the nap run in the same direction in the entire garment. If a section is cut in the opposite direction, a difference in color or shading will be noticed.

When sewing with pile fabrics, first choose a simple design with few seams. Follow the cutting layout for “with nap” fabrics. For richer color, the pile should go upward. Mark with tailor’s tacks or pins and chalk. Hand basting may be necessary to prevent slippage.

Pressing pile fabrics requires special techniques to prevent the pile from being crushed. Always place a piece of the pile fabric against the pile of the garment. When pressing the garment on the wrong side, place the piece of fabric on the ironing board, pile side up. When pressing the garment on the wrong side, lay the piece of pile fabric against the right side of the garment before pressing. Press lightly with steam.

to know

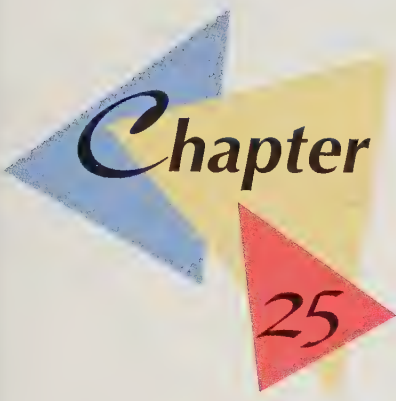
applied casing	pile
casing	raglan sleeve
flat collar	rolled collar
front hip pocket	self-casing
in-seam pocket	set-in sleeve
kimono sleeve	standing collar
nap	waistband
patch pocket	waistline facing

to review

1. What causes a collar to roll rather than to lie flat?
2. What can you do to keep the undercollar from rolling out and showing at the edge of a collar?
3. Which sleeve style has a diagonal seam extending from the underarm to the neckline?
4. Describe how to ease in the fullness in a set-in sleeve.
5. Which type of pocket is not visible when the garment is worn?
6. Describe how to make straight sides and sharp corners on a square pocket.
7. What can be done to stabilize seams and keep them from stretching?
8. How does a waistband differ from a waistline facing?
9. List four places where casings might be used on a garment.
10. If a casing is 1 inch (2.5 cm) wide, what width of elastic should you use?
11. Describe three techniques for sewing with knits discussed in this chapter.
12. What might cause parts of a velvet garment to appear a different color?
13. List two clothing construction steps described in this chapter where using a serger was suggested.

to do

1. Make a collage of pictures of various garments. Identify the types of collars, sleeves, pockets, and waistline treatments featured in each design.
2. Practice making curved and square patch pockets using the patterns provided by your teacher.
3. Make a chart comparing the three waistline treatments described in this chapter. Consider appearance, wearability, and ease of construction.
4. Compare the advantages and disadvantages of the three styles of sleeves. Consider appearance, wearability, and ease of construction.
5. Compare different methods used to finish fabric edges. Experiment with a zigzag stitch, an overcast stitch on the serger, and a hemmed edge. Use the same methods on both woven fabrics and knit fabrics. Write a paper summarizing your results.
6. Prepare a demonstration for the class on one of the construction techniques described in this chapter.
7. Collect and mount samples of various knit fabrics. Identify and classify the knits by type. List garment styles that would be appropriate for each type of knit.
8. Cut 4 inch square samples of three types of knit fabrics. Measure the amount of lengthwise and crosswise stretch in each fabric. Choose a pattern that would be suitable for each fabric.
9. Press a piece of pile fabric on a flat surface and then against a piece of the same fabric. Compare the results.



Chapter

25

Sewing and Handcrafts for Fun and Profit

After studying this chapter you will be able to

- discuss the benefits of doing sewing and handcraft projects.
- list points to consider when choosing sewing and handcraft projects.
- select sewing projects to match your interests and abilities.
- describe the basic equipment and techniques used in embroidery, knitting, crochet, and macrame.
- explain how to choose, price, and market sewing and handcraft projects to sell.

Sewing and handcrafts can be fun outlets for your self-expression. You can sew clothes that are fun to wear, 25-1. You can embroider, knit, crochet, and macrame gifts that are fun to give. You can also make useful items to sell for profit.

Using your creativity to make something can give you a good feeling. When your work is admired by others, you can take even more pride in your skills.

BENEFITS OF SEWING AND HANDCRAFT PROJECTS

Doing sewing or handcraft projects can have a number of benefits. First of all, sewing and handcrafts make excellent hobbies. Taking a break from your daily tasks to do something that you enjoy is relaxing. Many projects don't require your full concentration. Therefore, you can take part in conversation, listen to the radio, or watch TV while you do them. Meeting with friends to work on projects together is also fun.

Variety is a benefit of sewing and handcraft projects. The kinds of items you can make are limited only by your imagination.



25-1 This simple dress would be easy to make and fun to wear.

With so many choices of projects to do, you are not likely to become bored with your hobby.

Uniqueness is another benefit of sewing and handcraft projects. When you are done with your project, you have something that is one-of-a-kind. You may use the same pattern as someone else, but the colors and trims you select will add a personal touch.

Handmade items make special gifts. You could sew or make projects to give to family members and friends as birthday and holiday gifts. A handmade gift means more to the person receiving it. It says you spent time and thought to make something just for that person. See 25-2.

Another advantage of sewing and handcraft projects is the speed with which they can be done. You can often “make it today and use it tomorrow.” Pillows, hats, afghans, and wall hangings are easy-to-make items.

Saving money is another reason for doing sewing and handcraft projects. Garments, accessories, and gift items can be made for less money than you pay for ready-mades. Labor is a major factor in determining the cost of any product. When you do the labor yourself, you save money. Many projects can be made from scraps, so you can also save money on materials. See 25-3.

Not only can sewing and handcrafts save you money, they can help you make money, too. Selling items you have made can bring you a nice source of extra income.

CHOOSING A PROJECT

Many people start sewing or handcraft projects that they never finish. Giving some thought to your choice of projects will help you avoid this.

Doing your project will be more fun if you think about your interests when you choose it. Choose a project that will allow



HAAN CRAFTS

25-2 A friend might appreciate a handmade gift such as one of these school locker bags.



THE McCALL PATTERN CO.

25-3 *These colorful wind socks can be made from scraps.*

you to use a skill you enjoy. In other words, don't choose a knitting project unless you like to knit. Your project may tie into some of your other interests, too. For instance, if you like to play tennis, you might want to sew a tennis bag to carry your equipment. See 25-4.

Consider the amount of time you have to spend when choosing a project. If your time is limited, you may want to choose a small project or use a kit. When your work speed or your free time increases, you can move on to bigger projects.

Also think about the amount of money you have to invest in your project. Find out what supplies and equipment you will need. Some craft supplies can be expensive. See if you already have some of the needed materials at home. Many projects can be made from scraps.

Kit projects

If you are learning a new skill, a kit project may be a good choice for you. Kits are available for both sewing and handcraft projects. Kits for sewing projects include items such as jackets, vests, robes, comforters, and toys. Handcraft kits can be purchased to make pillows, wall hangings, baby clothes, afghans, and many other items.

Kits come ready to assemble to make a professional-looking item. They include fabric, yarn, or other materials needed to construct the project. They also contain all notions such as buckles, snaps, buttons, zippers, and trims. Polyester fiberfill or down is often included for stuffed articles. Step-by-step directions are included with each kit. Kits are sold in a range of prices and are designed for a variety of skill levels. See 25-5.



FROSTLINE KITS

25-4 *Someone who has an interest in camping might enjoy making a backpack as a sewing project.*



HAAN CRAFTS

25-5 Kits for these duffel bags include everything needed to complete the project. You can still personalize your project.

When ordering or buying kits, be sure you choose the correct size for garments such as jackets and coats. If you order by mail, you may be responsible for paying the

return postage if an item doesn't fit. Returning can also cause delays in completing your project on time.

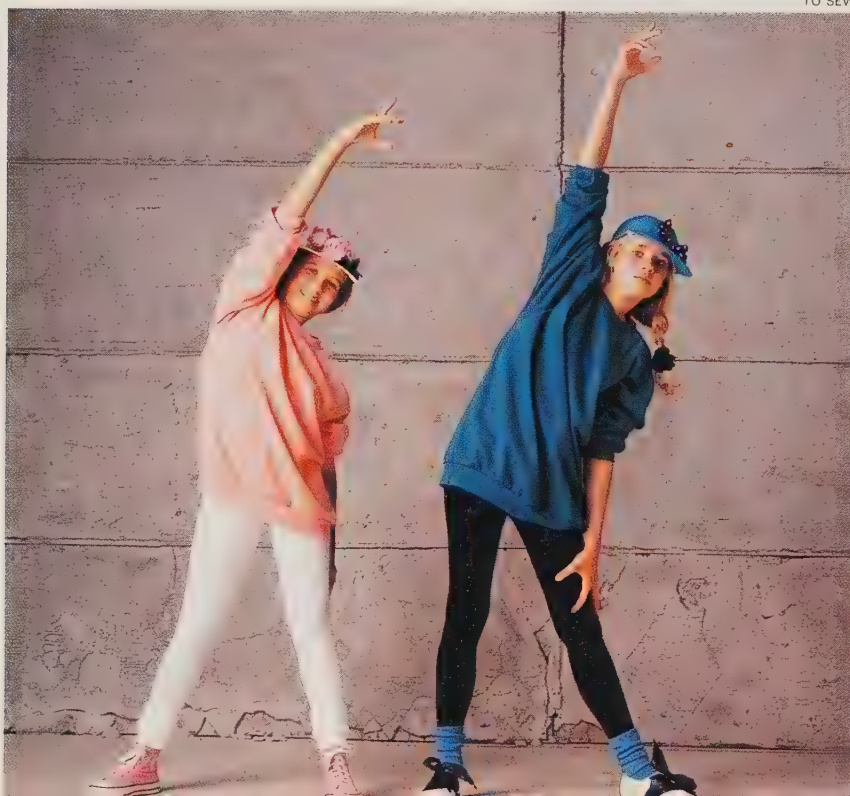
An advantage of using a kit is the quickness with which you can finish a project. You can choose kits that match your skills, and you can learn new techniques as you progress. You must follow directions carefully in order not to damage a part or section of the item. Using kits is a fun way to gain practice in following directions and using a new skill.

SEWING PROJECTS

Patterns are available for a wide range of sewing projects. For some simple items, you may even want to make your own patterns. The ideas suggested here are all fairly easy projects. They are fun items to make

25-6 Sweatshirts can be sewn quickly. Be creative and make personalized matching caps.

TO SEW



for yourself. They also make good projects to sell because they can be made quickly.

Garments

Sweat shirts, sweat pants, and shorts are quick and easy to make and fun to wear, 25-6. These garments need little fitting, so they make great sewing projects for beginners. You can practice your sewing skills making these simple garments. Then you may want to try making more fitted garments that require more advanced sewing techniques.

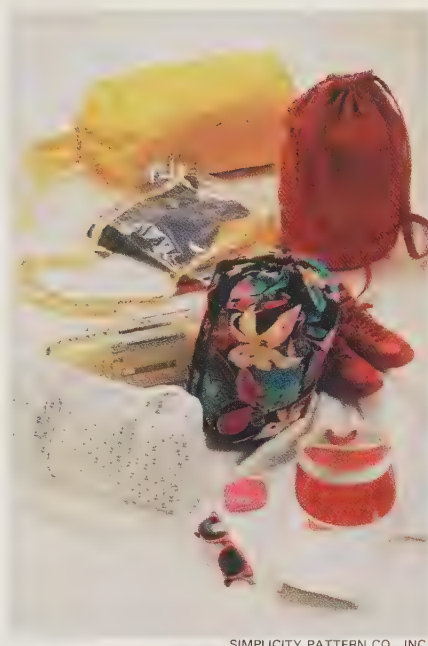
Bags and billfolds

It seems that almost everywhere people go, they take some of their belongings with them. People need beach bags, book bags, gym bags, fanny packs, and makeup cases to help them carry their possessions. People also need billfolds to carry one of their most important possessions – their money! Making bags and billfolds can be a quick and easy sewing project. See 25-7.

Kits are available to make bags and billfolds. You can even use your creativity to make your own patterns in the shapes and sizes you like. Since these items are small, leftover fabric scraps could be used to make them. You can use embroidery, bright trims, or special fabrics to personalize them.

Sports equipment

Accessories for a wide variety of sports activities make great sewing projects. Backpacking and skiing are popular forms of recreation for teens in some sections of the country. Much equipment is available in stores. However, you can make some of your backpacking and ski equipment.



SIMPLICITY PATTERN CO., INC.



FROSTLINE KITS

25-7 Bags and billfolds of all sizes and shapes make speedy and useful sewing projects.

Sew-it-yourself outdoor equipment kits are available. You can save up to half the cost of ready-mades. Some items you can make are vests, sweaters, jackets, pillows, backpacks, hoods, ski mitts, and even tents! See 25-8. Some of the kits are for beginners. People with some sewing experience can make more difficult items.



FROSTLINE KITS

25-8 Sports equipment kits are available for beginner-level projects, like these ski bags, and advanced-level projects, like this tent.



FROSTLINE KITS

Both guys and girls enjoy this type of sewing.

Backpacking and skiing aren't the only sports that lend themselves to sewing projects. You can also make swimwear, tennis and bicycle bags, exercise mats, and head covers for golf clubs. Seat cushions make an excellent project for spectator sports!

Stuffed toys

Stuffed toys give you a chance to express your creativity and use your imagination. Use your originality to create one-of-a-kind designs. They may be used as accessories for your room or as gifts for friends and children.

A wide variety of patterns for toys can be found in pattern catalogs. These include balls, clowns, and a wide variety of animals and other items, 25-9. With extra time, you could create your own pattern. If time is short, stuffed toy kits can be used.



PINEAPPLE APPEAL

25-9 Cute, cuddly stuffed animals are a favorite among children, and they're popular with teens, too.

When making stuffed toys for small children, select a sturdy fabric. Use polyester fiberfill for the stuffing so the toy can be safely laundered. If details such as eyes and nose are added, use fabric that can be sewn onto the toy. If you use button eyes, be sure that they are attached securely so that they cannot be pulled off and swallowed.

Quilts

Quilts are most often used as warm covers for beds. Other uses include wall hangings, tote bags, place mats, and vests.

A *quilt* is two layers of fabric with one layer of padding in between held together with stitches. The top layer is often made from patchwork designs. (For a patchwork quilt, small pieces of fabric are cut and sewn together by hand or by machine.) The top layer can also be made of one piece of fabric. The inner layer, called *batting*, is often made of polyester fiberfill, down, wool, or cotton. This inner layer gives warmth to the quilt. The bottom layer, called the lining or backing, is often one piece of fabric.

If a quilt is to be sewn by hand, the three layers of the quilt are often stretched on a quilting frame. Quilting begins around the edges as small stitches through all layers. The edges are then rolled onto the frame as the stitching progresses to the center. Quilting can also be done by machine. However, handmade quilts are treasured more and are more expensive than those made by machine. See 25-10 and 25-11.

Making quilts is time-consuming. Therefore, they are not very profitable to sell. Unless you can work fast, you probably would not be able to cover the costs of your labor.



HAAN CRAFTS

25-10 Quilted articles are fun to make for a fund-raising project. Other articles that are fun to design and sew are pillows, barbecue mitts, and holiday gifts.



TO SEW

25-11 Quilts are often used as bed coverings. This quilt was made by machine.

Pillows

Making pillows can be one of the fastest ways to add a decorative touch to your room. They can be made in a variety of shapes. Pillow kits are available like those

in 25-12. You can also use your imagination to create pillows from various fabrics. Firmly woven or knitted medium- to heavy-weight fabrics work best for pillows. Patchwork fabrics can also be used. Be sure to cut fabric for pillows on the straight of grain.

Your pillow can be stuffed with polyester fiberfill or pillow forms can be used. A zipper can be stitched into one seam of the cover. Then the cover can be easily removed for washing. Add machine-washable trims to personalize your pillow. Fabric paints can also be used to give a personal touch.

You may want to make a large floor pillow to provide a comfortable place to sit while reading or watching television. Make it firmer than other types of pillows. This will help it to keep its shape and last longer. Like other pillows, floor pillows can be stuffed with polyester fiberfill or a pillow form.

HANDCRAFT PROJECTS

Embroidery, knitting, crochet, and macrame have been favorite handcrafts for years. However, these only scratch the surface of the types of handcrafts that are available. New handcrafts are becoming popular all the time. Counted cross stitch, fabric painting, soft sculpture, and stenciling are just a few of the many handcrafts you might try. See 25-13. Check a local fabric or craft store to learn about a new handcraft that interests you.

Embroidery

Embroidery is decorative stitching made by using needle and thread. You can embroider almost any design on almost any item made from fabric. Embroidery can be used to decorate everything from garments to bed linens, 25-14. Personalized items embroidered with people's names make popular products to sell.



TO-SEW

25-12 These pillows were made from kits. You can also make pillows using your own designs.



25-13 Needlepoint and counted cross stitch are two popular types of handcrafts.



25-14 An embroidery sampler adds a decorative touch to the walls of a country home.

Equipment. Embroidery requires only a few pieces of equipment. Embroidery floss comes in six-ply skeins (packages) of all colors. Six-ply means there are six strands lightly twisted together. For a thick, solid

look, use all six strands. They can be separated to achieve special effects. For instance, the thin stem of a plant could be made using only one or two strands. Experiment to see what effect you like best.

Special embroidery needles are available, but any needle can be used if its eye is large enough for the thread. Most threads slip through the needle eye easily. If you have one that won't, cutting on a slant may help. Bulky threads can be a problem. Fold these back about an inch (2.5 cm) at one end. Pinch the fold and squeeze it through the eye of the needle.

Although any type of scissors can be used, a small, sharp-pointed pair is best. They will cut deeper into corners and closer to stitches. Always cut with the points. You may cut too far and damage your fabric if you use the back part of the blades.

An *embroidery hoop* is a set of two metal, plastic, or wooden rings. One ring fits inside the other. Fabric is held taut (tightly and smoothly) between the rings to prevent puckering as you embroider. A hoop with an adjustable screw on the outside ring is best. This type of hoop allows you to work with either thin or thick fabrics.

Techniques. Your embroidery thread should be no longer than your arm. Twisting, knotting, and fraying result when you work with longer lengths.

The first step in embroidery is to anchor the thread. This can be done in two ways. You can knot the thread end and insert it into the fabric from the wrong side. You can also make several small stitches and a backstitch close to the starting point. Then bring the needle through to the right side of the fabric.

Most embroidery is done using a few basic stitches. Choose designs within your

ability. Once you master the basic stitches, you can vary them for creative effects. As your embroidery skills increase, you may wish to tackle more complex designs, 25-15.

To end your work, make a tiny back-stitch on the wrong side. Then weave the thread through several of the completed stitches. Clip the thread close to the fabric.

Practice basic embroidery stitches until you can comfortably handle the needle, thread, fabric, and hoop. Later, you may want to use some of your samples as decorative patches.

Crewel. The difference between crewel and embroidery is the thread that is used. Yarn (usually wool) is used in crewel. Since yarn is thicker than embroidery floss, the work goes faster. The rest of the equipment and the techniques used in embroidery are also used in crewel. See 25-16.

Knitting

Knitting is making a garment or article by looping and twisting yarn when using two knitting needles. A single yarn is looped off of one needle and onto the other needle.

Knitting projects seldom make good products to sell because they take so long to make. However, knitting items for yourself or to give as gifts can be fun, 25-17. Sweaters, scarves, mittens, and hats are popular knitting projects.

Equipment. Yarn and knitting needles are the main pieces of equipment needed to make most knitted projects. Most knitting yarns are made of either wool or acrylic fibers. Yarn is packaged in skeins that vary in weight from 1/3 to 4 ounces (9 to 114 g). Two-, three-, or four-ply yarns can be used. (Four-ply yarn is thicker than two-ply yarn.) The directions for your proj-



25-15 With practice, you could embroider elaborate designs, like the one on these pillow cases.



MELINDA SAMUELS

25-16 Using thick, colorful yarn allows crewel projects to go fast.

ect will tell you what type of yarn and how many skeins to buy.

Be sure to buy all the yarn you need for a project at one time. All yarn that is dyed at the same time is given a certain dye lot

number. You can be sure skeins with the same dye lot number are exactly the same color. Exact colors are almost impossible to reproduce. If you go back later to buy more yarn, you may have to buy a skein with a different dye lot number. It may be a slightly different color.

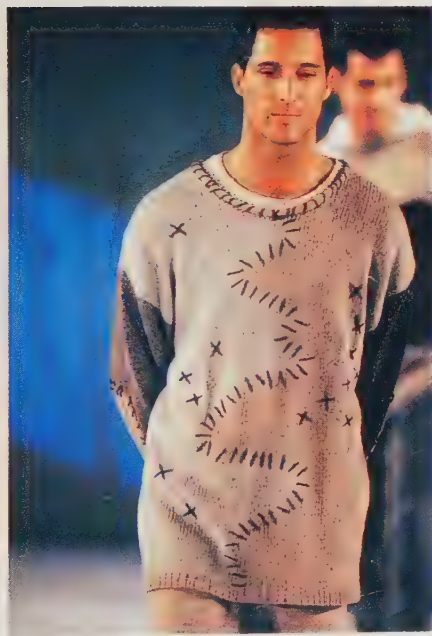
Knitting needles may be made of either plastic or metal. Sizes range from 00 (small) to 50 (large). They are from 7 to 14 inches (17.8 to 35.6 cm) long. For easy handling, choose a pair of needles that are size 5 or larger and no longer than 10 inches (25.4 cm). When you follow printed directions, the needle size is specified.

Beginners should use single pointed needles. Experienced knitters can create special effects and patterns by using double-pointed needles. Circular needles

are used for making tube-shaped items, such as cuffs, turtleneck collars, and larger circular areas. These articles are seamless. See 25-18.

Reading instructions. Instructions for any knitting project should be read carefully. Every word is important. If you skip over something, your project could be ruined. Underlining each step as it is completed will help you prevent mistakes.

To make directions shorter and simpler, abbreviations are used. The same abbreviations are used by all knitters. Once you learn them, you will be able to read any knitting directions.



INTERNATIONAL WOOL SECRETARIAT

25-17 Every time a hand knit sweater is worn, it reminds the owner of the knitter who made it.



25-18 Choosing the right knitting needles will help your knitting project turn out correctly.

To make sure that a knitted item will be the correct size, a *gauge* is given. A gauge is the number of stitches per inch (2.5 cm) and the number of rows per inch (2.5 cm). If you use the correct size yarn, needles, and knitting tension, a sample of your knitting should match the gauge given in the instructions. If it does not, the item will be either too small or too large.

Techniques. Casting on is the first step in knitting. This means putting the first row of stitches on the knitting needle. Your instructions will tell you how many stitches you need.

Knit and purl stitches are the basic stitches in knitting. Combinations of these two stitches form many patterns and designs. Other knitting stitches include the stockinette, garter, and ribbing stitches. To shape items, you need to know how to increase and decrease stitches.

Try not to put your work down while you are in the middle of a row. If possible, knit to the end of a row. Then push the stitches to the back of the needle so they cannot accidentally slip off the needle. If the needle is full with stitches, wind a small rubber band around the point of the needle. This will keep the stitches from slipping off the needle. A point protector can be purchased to serve the same function.

When you are not working on your project, roll your work loosely around the needles. Put it into a bag to keep it from getting soiled.

When you have finished knitting a project, you have to cast off. Stitches are looped together leaving a finished edge. The yarn at the end is knotted to prevent unraveling.

As soon as you know how to determine gauge, cast on, knit, purl, and cast off, you

can start a project. One of the fun things about knitting is being able to unravel your work and start over if you wish. You will need practice. Most people feel awkward at first. Try to establish good habits. Later, you will be able to relax and work more comfortably with better results.

Crochet

Crochet is similar to knitting, but only one needle is used. The needle is used to pull the thread through a loop or series of loops.

Many articles and garments can be crocheted. Years ago, the most popular projects were small pieces used to protect the arms of upholstered furniture and as decorative items. Although similar items are still made today, projects made with bulky yarns and bright colors are also popular. Scarves, hats, belts, afghans, vests, sweaters, skirts, and shawls are often crocheted, 25-19. Many instruction booklets are available for making these items.

Equipment. The tool used to crochet is called a *crochet hook*. Hooks can be made of steel, aluminum, plastic, or wood. In steel, the sizes range from 14 (small) to 00 (large). In aluminum, plastic, and wood, sizes are designated by either numbers or letters of the alphabet. The smallest is A or zero. The size of hook you need is determined by what you are making and the weight of your yarn.

Any yarn can be used for crochet, from fine to bulky. Yarn is sold according to weight and ply. A thicker ply results in a heavier yarn. Buy all the yarn you need at one time to be assured it is from the same dye lot. If the dye lot number on all the labels match, the colors will be exactly alike. See 25-20.



25-19 *An afghan is a popular crochet project.*



25-20 *Checking the dye lot number on each skein of yarn will assure you that all your yarn is exactly the same color.*

Techniques. As in knitting, you must control your gauge so your finished project will be the right size. The instructions for any project list a gauge. Learning how to hold the yarn and the hook to get the correct tension will help you get the prop-

er gauge. Measure a 3-inch square practice piece to determine if your gauge is correct. If you have too many stitches, use a larger hook. If you have too few stitches, use a smaller hook.

A slip knot is used to start any crochet project. The next step is to form a starting chain. A few basic stitches are used to make most crochet projects. These stitches are looped through the chain to form the first row of your project. Rows are looped through rows according to the instructions until the project is completed. By varying, enlarging, or combining basic stitches, you can make all other stitches.

Macrame

Macrame is the art of tying knots. Patterns are varied by combining different colors, ropes, and knots. Thread, yarn, cord, and rope can be used to make many kinds of creative projects. Clothing accessories that can be made of macrame include belts, bags, vests, ties, and necklaces. Wall hangings and plant hangers are also common macrame projects. An example of macrame is shown in 25-21.

Equipment. Macrame can be done with a few basic supplies. You need a knotting board, pins, cord, and a few miscellaneous items.

The knotting board serves as the work surface on which macrame projects are made. Your knotting board can be made of styrofoam, fiberboard, or any rigid material in which you can easily stick pins.

Pins are used to attach the macrame project to the knotting board. They also help hold the shape of the project as you work on it. T-pins are the most common macrame pins. Upholstery pins, card pins, and push pins can also be used. See 25-22.



25-21 *Making projects of macrame is fun. Notice the use of sticks and beads for interest.*

For cord, you can use almost any pliable material that comes in long lengths. It should be strong and not too stretchy. Everything from kite string to sisal rope can be used. The directions for your project will tell you which kind of cord to use and how much you will need.

A few miscellaneous supplies are needed for macrame. You will need a tape measure, yardstick, or meterstick; scissors; and either rubber bands or twist-ties. These items are used for measuring, cutting, and bundling the lengths of cord.

Beads, sea shells, bells, driftwood, sticks, and wooden or metal hoops can be used to achieve special effects in macrame projects. As you become more skilled in macrame, you may want to experiment with these and other supplies.

Techniques. When you first see a macrame item, it looks complex. However, if you look more closely, you will see that it is only a series of simple knots.

Macrame is easy to learn. The first step is to secure a holding or anchor cord to



T-PIN



UPHOLSTERY PIN



CARD PIN



PUSH PIN

25-22 *Any of these pins can be used for macrame.*

your knotting board. The next step is to mount some knotting cords onto the holding cord. If the cords are long, they may tangle and get in your way. To prevent this, wrap each cord into a bundle and secure the bundle with a rubber band or twist-tie.

Most of the geometric designs seen in macrame are formed by using two simple knots and their variations. These two knots are the double half hitch and the square knot. When you can make these knots with ease, you will be ready to begin a project. Once you become skilled at macrame, you can try your hand at creating original designs. Write down the steps as you do them so you will be able to repeat the design.

PROFITING FROM YOUR SKILLS

You can turn your sewing and handcraft skills into a source of income by selling the

items you make, 25-23. If this idea interests you, you have some decisions to make. First, do you just want to sell items for fun, or do you actually want to start a small business? If you decide you want to start a small business, you must decide what you will sell. You must also decide how much you will charge for your products and where you will sell them.

What to sell

Choosing a project to sell involves some different considerations than choosing a project to make for fun. You have to consider what your customers will want to buy. Items that you make to sell should be unique and original. Items made from kits are not likely to sell as well as items you've



25-24 Baby items, like this cheerful bib, make popular projects to sell.



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25-23 Making Halloween costumes could be a profitable way to use your sewing skills.

designed yourself. People realize they can do kit projects themselves. Try to find a few items that you enjoy making and that you can make quickly and inexpensively. See 25-24.

You can get ideas for marketable sewing or handcraft projects from a number of sources. Start at a fabric store. Pattern catalogs are loaded with fun sewing ideas. Many fabric stores also carry kits, craft supplies, and how-to project books. These can give you ideas for handcraft projects you might enjoy.

A craft shop is another place to get project ideas. Many craft shops offer classes. You can learn a new handcraft skill and make a project to take home with you. With practice, you can use your new skill to create products to sell.

Craft fairs can also give you ideas for items you might enjoy selling. Seeing products other people have found profitable may give you some thoughts of your own.

How much to charge

You must consider all of your costs when pricing your products. One of these costs is the cost of your materials. Be sure to include the cost of all your notions, too. Trims, buttons, thread, and even your price tags cost money. Even if you make your products from scraps, the scraps have value that should be figured into your sales price, 25-25. Suppose you are making stuffed animals to sell. Each animal takes a yard of fabric, two buttons, and a yard of ribbon to make. Your costs for materials might look like this:

Fabric	\$3.00
Buttons	.60
Ribbon	.75
Stuffing	1.30
Miscellaneous (thread, price tags, bags, etc.)	.55
Total	\$6.20

If you really want to develop your skills into a small business, your time is an important consideration. Decide how much you want to earn per hour. Carefully figure how much time it takes you to make each item. Then multiply your wages by your time to calculate your labor costs. This cost must be added to the price of each item. Suppose you can cut out and sew a stuffed animal in two hours. If you want to earn \$5.00 per hour, you have to include \$10.00 in the price of each animal to cover the cost of your labor ($\$5.00 \times 2 = \$10.00$).

Your sales time must also be included in the price of your products. Suppose you sell your stuffed animals at a craft fair. If you



PINEAPPLE APPEAL

25-25 Duffel bags sell well at craft fairs. You can use scraps to vary the design on the bags. However, the value of the scraps should be figured into the price charged for the bags.

sell five animals per hour, it costs you \$1.00 in sales time to sell each animal ($\$5.00 \div 5 = \$1.00$). You would want to sell your animals for at least \$18.00 to be sure to cover all your expenses ($\$6.20 + 10.00 + 1.00 = \$17.20$).

You may find that the price you must charge is more than most customers are willing to pay. See 25-26. If this happens, try looking for ways to reduce your costs. You may be able to find a less expensive source of materials. Sometimes you can save money by buying large quantities of materials. However, be sure you will use all that you buy before you invest in large amounts. You may decide to lower your labor costs. However, avoid working for less than minimum wage. If you find you are making only \$2.00 per hour, you may



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25-26 The labor costs required to make jackets like these may make them too expensive to sell.

become frustrated. This frustration may cause you to abandon your business. If you can't find a way to reduce your product costs, you may have to sell a different product.

Where to sell

Once you have decided what to sell and how much to charge, you must decide where you will sell your products. You may have several options. Choose the one that you feel will be most enjoyable as well as profitable for you.

Schools, churches, and shopping malls often hold art fairs and craft shows featuring displays of handmade items. Many community flea markets also include tables of craft items. These events give you the opportunity to sell to a lot of people in a short time. However, there is usually a charge for booth or table space at these events. Remember to figure this cost into the cost of your products. See 25-27.



25-27 People who have turned their sewing and handcraft skills into businesses often sell their products at craft shows.

Another option for selling your products may be to market them through gift shops and boutiques. You may be able to arrange for shop owners to display items and take orders for you. You will have to share your profits with the shop owners. However, you will avoid the expenses of booth space and selling time.

You can also sell items yourself by going door-to-door. You can advertise your wares through newspaper ads and posters on community bulletin boards. Word of mouth from satisfied customers may soon become your best advertising!

Some people don't like selling. They feel uncomfortable trying to convince other people to make purchases. However, if you like your products and believe in their quality, you will find them easy to sell. In fact, many handmade items are so appealing, they practically sell themselves.



THE McCALL PATTERN CO.

Stuffed toys can add a decorative touch to a teen's room. They are also a favorite among children.



SIMPLICITY PATTERN CO., INC.

Pillows are fun projects to make and sell.

to know

batting	embroidery hoop
crewel	gauge
crochet	knitting
crochet hook	macrame
embroidery	quilt

to review

1. List four benefits of doing sewing and handcraft projects.
2. What are three key points to consider when choosing sewing and handcraft projects?
3. True or false. Sewing and handcraft kits contain the basic materials needed to construct a project, but they do not include notions.
4. Give two guidelines that should be followed when making stuffed toys for small children.
5. Which of the following sewing projects would not be very profitable to sell?
 - a. Sweat shirts.
 - b. Tote bags.
 - c. Quilts.
 - d. Pillows.
6. What is the difference between embroidery and crewel?
7. Why should all the yarn needed for a project be bought at one time?
8. The number of stitches per inch and the number of rows per inch in knitting and crochet is called _____.
9. True or false. Almost any string, rope, or cord material can be used to do macrame.
10. List three sources of ideas for marketable sewing and handcraft ideas.
11. Explain how to figure the labor cost that must be added to the price of sewing and handcraft items sold for profit.

12. What is a disadvantage of selling sewing and handcraft items at craft shows and flea markets?

to do

1. Ask students and adults who like to sew and do handcrafts for a list of their favorite projects. Compile a master list from all students in class.
2. Write a one-page real or fictional account of a gift-giving occasion in which someone received a handmade gift. Describe the gift and explain why being handmade made it seem extra special.
3. Record the price of a sewn or handcrafted item you see in a gift shop. Then go to a fabric or craft store and price the materials needed to make a similar item. Compute the cost of making the item yourself. Compare the costs and share your findings in class.
4. After completing a kit project, write a brief evaluation of the kit. Your evaluation should include answers to the following questions: Did the kit include all the materials you needed? Were the instructions easy to follow? Did the project turn out as you expected? Would you recommend this kit to a friend? Explain why or why not.
5. Assemble handcraft equipment—hoops, needles, yarns, etc.—for a bulletin board display.
6. Work in class to make one of the sewing or handcraft projects described in this chapter. Create a display of items made by students in your class.
7. Visit a craft show. Give an oral report to the class on what you observed. Describe the types of products sold, the price range of the products, and the location of the show. Also describe the number and types of people who attended the event.



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BENEFITS PACKAGE
... FOR GROWTH
...
...
★★★★★★



Part 6

Career Planning

26 Leadership and Career Preparation, 430

27 Careers in Textiles and Clothing, 455





Leadership and Career Preparation

After studying this chapter you will be able to

- define leadership and describe leadership traits.
- explain the order of business during meetings that are conducted according to parliamentary procedure.
- describe the process of getting a job, including finding job openings, preparing a resume, writing letters of application, filling out job application forms, and interviewing.
- discuss what it takes to succeed on the job.
- evaluate entrepreneurial opportunities.

Since you were a small child, people have asked you, “What do you want to be when you grow up?” When you were in elementary school, you had a ready answer—a nurse, school teacher, truck driver, doctor, or football player. That decision may have been made because you admired someone in that career. Perhaps a television show or movie influenced you.

In the future, other factors will influence your career decisions. You may begin thinking more seriously about how your interests, aptitudes, and skills relate to various careers. You may want to investigate how much education you would need for a certain career. You might also want to know what the payoffs would be through the years in terms of job satisfaction, status, salary, and fringe benefits. You may even want to think about how a career choice would influence your lifestyle. For instance, a job may dictate where you would live and what hours you would work. You may also want to consider how family life would blend with your work and what people you would meet through your work.

Right now, you may not know what career to choose. That's okay; you have plenty of time to think before you make a decision. You can use that time to learn about the possibilities that are open to you, 26-1. Meanwhile, you can develop leadership skills that will help you succeed in any career.

LEADERSHIP

A *leader* is a person who guides a group toward its goals. *Leadership* is the capacity to lead or to direct others on a course or in a direction. Leadership is needed for the successful operation of schools, businesses, cities, and nations.



26-1 A part-time job is a great way to explore career possibilities and the world of work.

Why is it important to develop leadership skills? They help you build your self-confidence and self-esteem. They help you succeed in school and on the job. If you have leadership skills, you can take charge of a project and get it done, 26-2. Others learn that they can rely on you.

Leadership skills are necessary for a class president, football captain, or committee chairperson. They are also important if you have to work with classmates on a science project. Or consider a job setting. You may be asked to work with two other salespersons to design a window display for a clothing store. Leadership skills will help you accomplish that goal.

Leadership traits

Leaders are often described in terms of their traits. Leaders are confident and show



DON BAUC, THORNIDGE HIGH SCHOOL

26-2 Working on a project and completing it helps you to develop leadership skills.

a strong sense of responsibility. They have good communication skills and can express their thoughts clearly and effectively. Enthusiasm is another important trait as leaders work toward goals and motivate others to do their best, 26-3. Leaders stress cooperation and set good examples. They do their share of work just as everyone else does. Good leaders do what is needed to help their groups reach their goals.

Another trait of leaders is the ability to be flexible. They can accept change and can help others accept change, too. They keep an open mind about decisions and situations. They are willing to listen to new ideas. This is why leaders are usually good problem-solvers. They can identify a problem and consider all the alternatives and consequences. Then they have the confidence to make a decision and carry it out.

Because the traits and skills of a leader are helpful in so many ways, they are worth developing. In school, you have the opportunity to lead in various clubs and organizations. Join one or more groups that interest you and get involved. Volunteer for committee work. Run for an office. The experience and skills you gain will prepare you for leadership roles as an adult.

STUDENT ORGANIZATIONS

Many opportunities for leadership experience are available in student organizations. Each club needs members who are willing to work for the good of the club. Only a few can be officers, but everyone can take an active role. Everyone can attend meetings, learn parliamentary procedure, and participate in club activities.



26-3 Successful leaders possess good communication skills and enjoy helping their groups reach their goals.

Everyone should have an opportunity to serve on a committee at least once a year. All members can work toward the development of leadership traits and skills.

Although any organization can be beneficial, vocational student organizations have extra advantages. They help students learn about career opportunities in various fields. Your school may already have a student organization that is related to your vocational interests. If not, one can be started with your school's approval. The following organizations offer opportunities for participation at local, state, and national levels.

Future Homemakers of America (FHA) is available to students in home economics classes. The focus is on projects related to consumer education, homemaking, and family life education, 26-4. Careers related to home economics are also explored.

Home Economics Related Occupations (HERO) is for students in occupational home economics courses. Examples of these courses are fashion merchandising, other clothing services, food services, and child care services. Emphasis is placed on the preparation of students for home economics related occupations.

National FFA Organization (FFA) is for students interested in agriculture. It strives to promote leadership, character development, cooperation, service, improved agriculture, and citizenship.

Distributive Education Clubs of America (DECA) is open to all students in distributive education classes. Chapter activities help students learn more about marketing, merchandising, management, and related careers.

Future Business Leaders of America (FBLA) is for students interested in



FUTURE HOMEMAKERS OF AMERICA

26-4 Participation in Future Homemakers of America gives members the opportunity to develop skills for life such as communication skills, planning, goal setting, and decision-making. These skills are necessary both in the world of work and at home.

business occupations. Its purpose is to help students choose business occupations and to develop competent, aggressive business leaders.

Health Occupations Student Association (HOSA) is open to students interested in health occupations. It helps members develop the traits necessary to become competent leaders and health care workers.

Vocational Industrial Clubs of America (VICA) is for all students in occupational courses preparing for careers in the trades and in industry. Its motto is, "Preparing for leadership in the world of work." VICA strives to develop students' social and leadership skills as well as their occupational skills, 26-5.



DON BAUC, THORNBRIDGE HIGH SCHOOL

26-5 These students are participating in a VICA installation ceremony. As members of VICA, they are preparing for careers in the trades and in industry.

CONDUCTING MEETINGS

As you attend meetings of organizations, you will find that they usually follow the same pattern. Most groups conduct their meetings according to *parliamentary procedure*. This is an orderly way of conducting a meeting and discussing group business. Its purpose is to help groups run their meetings fairly and efficiently.

The terms listed in 26-6 are often used during meetings. Once you know these terms, you will understand what happens during meetings. You will be able to participate effectively.

The sequence of events during meetings is called the *order of business*. Most meetings follow the order of business outlined in *Robert's Rules of Order*, a well-known book on parliamentary procedure.

It includes these steps:

1. Call to order.
2. Reading and approving of minutes.
3. Reports of officers.
4. Standing committee reports.
5. Special committee reports.
6. Unfinished business.
7. New business.
8. The program.
9. Announcements.
10. Adjournment.

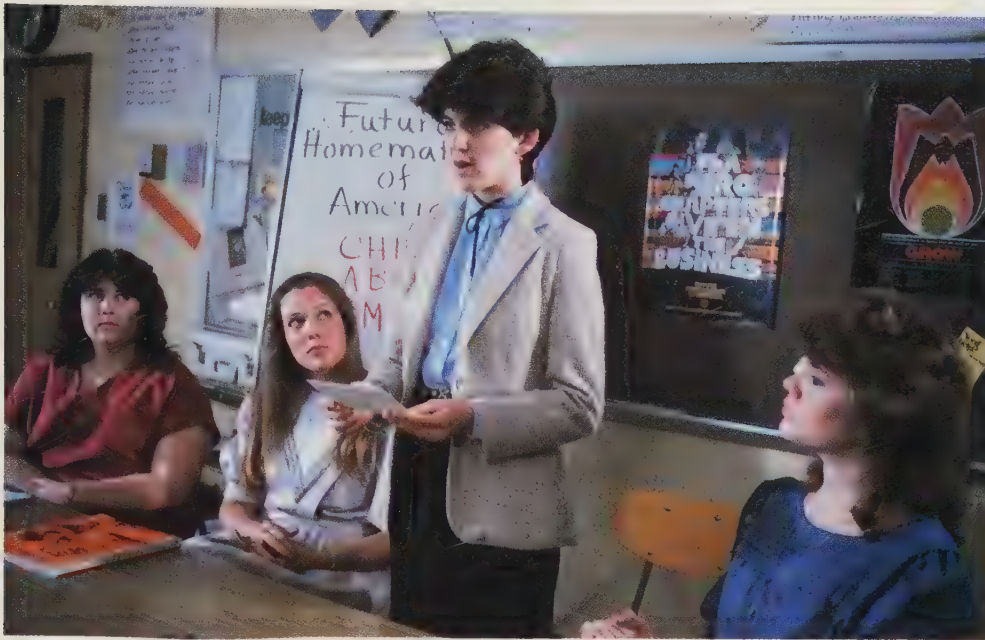
Call to order

A meeting is called to order by the president or presiding officer of the group, 26-7.

TERMS USED IN PARLIAMENTARY PROCEDURE

- Adjourn** — To end a meeting.
- Agenda** — A list of things to be done and discussed at a meeting.
- Amend the motion** — To change the wording of a motion that has been made.
- Chair** — The presiding officer at a meeting, such as the president or chairperson.
- Debate** — To speak for or against a motion. Every member has a right to debate an issue.
- Majority** — At least one more than half of the members present at the meeting.
- Minutes** — A written record of the business covered at a meeting.
- Motion** — A suggestion by a member that certain action be taken by the group.
- Quorum** — The number of members who must be present to legally conduct business at a meeting.
- Second the motion** — The approval of a motion by another member.
- Table the question** — To delay making a decision on a motion.
- The floor** — The right to speak in a meeting without interruption from others.
- The question** — The motion upon which members are called to vote.

26-6 Knowing the terms of parliamentary procedure will help you participate effectively in group meetings.



FUTURE HOMEMAKERS OF AMERICA

26-7 A meeting begins when the president calls the meeting to order.

He or she may capture the attention of members by rapping a gavel on a wooden surface. Then he or she says, "This meeting will now come to order."

There must be a *quorum* present to proceed with the business part of the meeting. A quorum is a majority of members or a certain number of members as stated in the group's rules.

Reading and approving of minutes

Once the meeting has been called to order, the president asks the secretary to read the minutes of the previous meeting. Then the president sits down, and the secretary stands to read the minutes. When he or she is finished, the president stands and says, "You have heard the minutes of the previous meeting. Are there any corrections to the minutes?"

Any member may stand and point out corrections or additions that should be made to the minutes. If there are no corrections, the president will say, "The minutes stand approved as read." If there are corrections and they are made, the president will then say, "The minutes stand approved as corrected."

Reports of officers

After approval of the minutes, the president calls on the officers of the group to give any reports they may have. In most groups, the only officer to give a report at every meeting is the treasurer. The treasurer's report informs members of the group's financial status. It tells of any income collected or expenses paid since the last meeting and how much money the group has in its account.

Standing committee reports

Standing committees are permanent committees of the group as specified in the group's bylaws. Examples include membership, program, and refreshment committees. After the group's officers have reported, the president asks the chairperson of each standing committee for a progress report.

Special committee reports

Special committees are those that are set up for a certain purpose only. They usually last just a short time. For instance, a special committee might design the float for the Homecoming parade. Others might select awards for the spring banquet or find entertainment for the winter dance.

As long as a special committee exists, its chairperson reports its progress at every group meeting. After the committee has

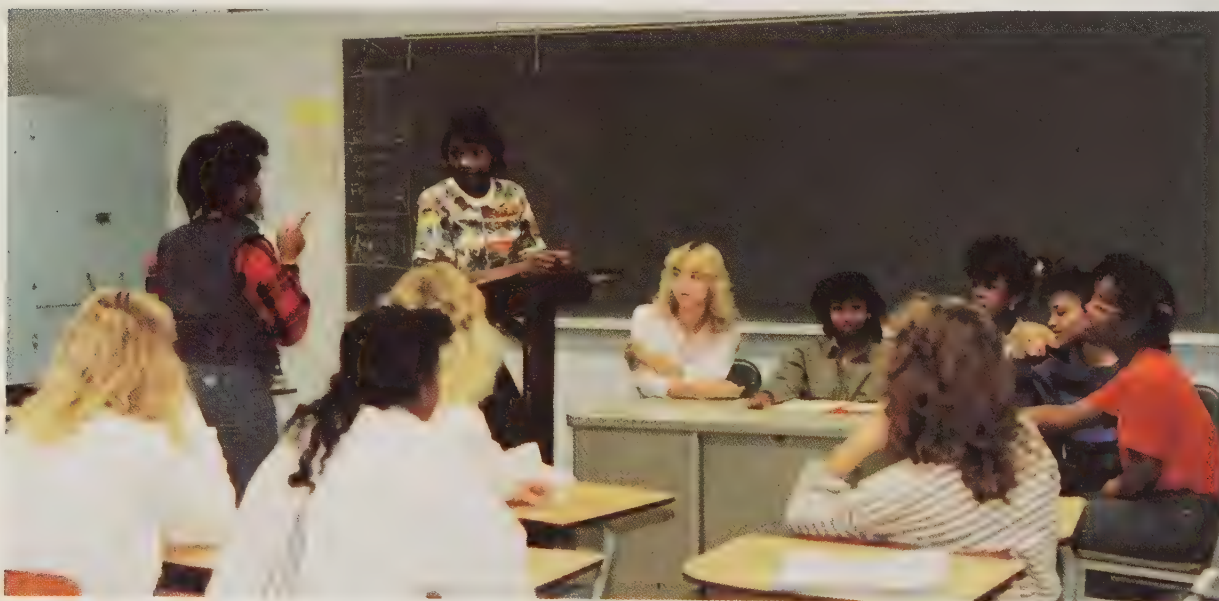
done its job and reported the results to the group, it will no longer exist.

Unfinished business

After all reports have been given, the president asks, "Are there any items of unfinished business that need to be discussed today?" Unfinished business might include motions that have been tabled. For instance, there might have been a motion at the last meeting to have a car wash to raise money. If members did not have enough time to discuss the idea and vote on it, the motion would have been tabled. It would be discussed as "unfinished business."

New business

Next, the president asks, "Is there any new business?" During this part of the meeting, ideas for future activities are discussed, 26-8. Goals may be set, and



LINDA VARNADO, THORNIDGE HIGH SCHOOL

26-8 To present an item of new business, stand and speak clearly.

special committees may be formed. This is also the time when members may present bills that need to be paid. If decisions are not made about items of new business, they are usually discussed at the next meeting as unfinished business.

The program

When the business portion of the meeting is over, the president asks the program committee chairperson to introduce the speaker or begin the program presentation. This is the heart of the meeting. Programs are usually informative. They may be entertaining as well as educational. Worthwhile programs encourage current members to attend meetings, and they attract new members to the group.

After the program, the program committee chairperson thanks the speaker or program participants. Then he or she returns the meeting to the president.

Many guest speakers do not have the time or desire to listen to a group's business discussions. In such cases, the program may follow the meeting's call to order. When the program is over and the guest speaker has left, the business portion of the meeting is held.

Announcements

Following the program, the president asks, "Are there any announcements?" At this time, committees may be thanked for their work, or individuals may be congratulated for special achievements. Members are reminded of upcoming events of interest. The date, time, and place of the next meeting should be announced along with a brief description of the planned program.

Adjournment

To end the meeting, the president asks for a motion to adjourn. After the motion has been made and seconded, the president asks for a vote. When the motion has passed, the president says, "This meeting is now adjourned."

A JOB WHILE STILL IN SCHOOL?

Can you handle a job while going to school? That depends on you. Jobs take time, 26-9. If you have a job, you have less time to do your schoolwork. You have less time to do chores at home. You have less time to be with your friends.

Jobs are not easy to get. If you want a job, you will have to find one that will fit into your time schedule. You will have to



26-9 When you have a job while you are still in school, you need to learn to manage your time well.

find one that is suited to your skills. You may need transportation.

If you can solve these problems, you may enjoy having a job. You will meet a new group of people. You will learn new skills. You may be able to get a job in the field you are considering for your future career. That is the best way of testing your interest and ability.

Jobs and laws

The law places some restrictions on the kinds of work that teens can do. Once you have reached the age of 16, you have few restrictions. The Fair Labor Standards Act states: "At 16 years of age young people may be employed in any occupation other than a nonagricultural occupation declared hazardous by the Secretary of Labor. There are no other restrictions. *If not contrary to state and local laws*, young people may at this age be employed during school hours, for any number of hours, and during any period of time."

Employment of 14 and 15-year-old minors is much more limited. The work they do must not interfere with their schooling, health, or well-being.

To find out what your state and local laws are, contact the Department of Labor, Wage and Hour Division.

GETTING A JOB

If you think you might want to get a job, you'll have many factors to consider. You will want to talk with your parents about how your work will fit in with your school and home responsibilities. You will need to consider transportation. Will you be able to walk or bike to work? Is public transportation available? Will you need to drive a

car or have someone else drive you to and from work?

You will need to find out what kinds of work the law allows you to do. You'll need to think about what kinds of work you would like to do and what jobs are available in your area.

Finding job openings

When looking for a job, don't be bashful. Talk to people. Let them know that you want to work. Friends, neighbors, relatives, religious leaders, teachers, coaches, and counselors may be able to help. They may know of job openings in your community.

Keep your eyes and ears open. Look for "help wanted" signs in the windows of local businesses. Read notices on community bulletin boards in supermarkets, drug stores, and community centers. Listen to classmates as they talk about their jobs. If one has just quit a job, that job may be available. If one is moving away, his or her job may be available soon. Listening to peers may also give you ideas about where you would eventually like to work. Some jobs are better than others. You may want to apply at some of the "good places to work" even if there are no immediate openings. You could give them your resume and ask them to call you when a job is available.

The classified ads (want ads) in local newspapers are another source of information about job openings. See 26-10. They give brief descriptions of all kinds of available jobs. If you see an ad that interests you, respond quickly. Job openings listed in classified ads are often filled a day or two after the ads appear.

Public employment offices have been set up in every state by the federal government.

Help Wanted

BRIDAL SHOP: Part time help needed. Experience with bridal and better dresses. Flexible hours, days or evenings, for ★Presser ★Alterations ★Sales Apply in person Monday thru Friday, 11am to 5pm, no calls.
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Retail

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Retail

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Retail

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Retail

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They help people find jobs in and out of government. They do not charge fees for their services. Check the telephone book (under the name of your state) to see if the state employment service has an office near you. If so, you may want to go there to fill out an application and talk with a job counselor. If a job opening matches your interests and skills, an interview will be arranged for you.

Private employment agencies charge fees for their services. Either the employer or the job seeker pays the bill. Many private agencies specialize, dealing only with office workers, salespeople, accountants, or engineers. If a contract is offered to you, be sure to read it carefully. Know exactly what you are agreeing to pay if you accept a job the agency finds for you. Do not sign any contract until you understand all the terms of the agreement.

Preparing a resume

Before you actually apply for a job, you will need to prepare a resume. A resume is a brief account of your education, work experience, and other qualifications for employment.

Your resume should help you make a good impression on potential employers. It should be short — just one or two pages. It should be neat, well organized, free of errors, and easy to read, 26-11. Duplicates should be printed or carefully photocopied on good quality paper. If your resume is sloppy or confusing, it won't be read, and you won't be hired!

An example of a well-written resume is shown in 26-12. It includes the information a company needs to know about the applicant. The information is organized under appropriate headings.

26-10 The classified ads in your local newspaper can be a source of job leads.



26-11 Take time to prepare a neat, well-organized resume.

List the most important information first: your name, address, and telephone number. You want to be sure the employer can reach you to set up an interview and offer you a job.

Job objective. After your name, address, and telephone number comes your job objective. This tells what kind of job you want. You can be very specific such as, "Machine operator in the alterations department of a fashion boutique." Or you can be general and write, "A challenging position in sales." A specific job objective is great if it matches the job opening. On the other hand, a general job objective shows that you are flexible. Thus, you may be considered for more than just one job opening.

If you are interested in several types of work, you may need to prepare several resumes. Each could have a different job objective. Another option is to not include a job objective. However, most career counselors recommend including a job or career objective on every resume.

Education. Under this heading, list all the high schools, vocational schools, colleges, and other schools you have attended. (You do not need to list schools you attended before high school.) List them in reverse order, with the most recent school first.

Give the name and location of each school. Tell when you attended each school, and list graduation dates. Describe diplomas, certificates, or degrees you have

Susan L. Wang
624 Pine Street
Irvine, California 92714
(714) 555-3674

JOB OBJECTIVE

Salesperson in a clothing store

EDUCATION

Woodbridge High School, Irvine, CA
Expected date of graduation: June 19xx
Related courses: fashion merchandising, clothing, general business
Overall grade point average: 3.5 (A=4.0)

WORK EXPERIENCE

Waitress, Garden Cafe, Irvine, CA, from March 19xx to present;
part-time during the school year and full-time during the
summer. My duties include taking orders, serving food,
operating the cash register, and keeping my station clean.

Wardrobe Assistant, Women's League of Orange County, February
19xx. As a volunteer, I worked backstage to assist the models
in a fashion show.

HONORS AND ACTIVITIES

First-place award in the "Young Designers Contest" sponsored
by the Women's League of Orange County.

Member of HERO for three years; have served as vice president
and as chairperson of the program committee.

Member of Drama Club for two years; have served as chairperson
of the costume committee.

Member of Woodbridge Marching Band for four years.

Member of softball and volleyball teams for two years.

INTERESTS

Designing clothes, sewing, swimming, cooking, photography

References upon request

26-12 Your resume is your advertisement of yourself. A well-written resume can help you make a good impression on an employer.

earned and major programs you have studied. If you received good grades, you may want to mention your grade point average.

Work experience. Employers are especially interested in the listings under this heading. They know that if you've had work experience, you have had to assume responsibility.

List your work experiences in reverse order, with the most recent one first. If you have never had a regular job, you could list volunteer work, yard work, or baby-sitting in this section. If you've had several regular jobs, list just those. Your goal is to show that you are capable of being a responsible, dependable, valuable employee.

For each work experience you list, include your job title, the employer's name, and the location. Also give a brief description of the work you did on the job.

The order of the sections on work experience and education varies. Sometimes education is first. Sometimes work experience is first. You should design your resume to highlight your strengths. If you feel qualified for a job because of the education you have had, list education first. If you've had valuable work experience related to the job you are seeking, list work experience first.

Honors and activities. This section allows you to highlight your achievements. List honors, awards, and scholarships you have received. List school and community organizations to which you belong. Be sure to mention any leadership positions you have held. If you did not mention volunteer work you have done under "Work experience," you can list it here.

The name of this section should relate to the items you list in it. You may prefer

to call it "Activities" or "Organizations" or "Honors and organizations." It should point out your accomplishments, but it should not be overdone or exaggerated.

Skills and interests. Include this section only if you have skills or hobbies that you believe would enhance your job performance. Examples might be typing skills or the ability to speak a second language.

Personal. You are not required to give any personal information. By law, employers cannot ask you about some of your personal qualifications. But if you think some of your personal qualifications might help you get the job, include them. On the other hand, don't include any personal information that would hurt your chances. Think of your resume as an advertisement. Be truthful and point out your best features.

References. If you include references, give the names, titles (if applicable), and addresses of three or four people. These should be people who know you well and who could discuss your qualifications with employers. Do not use relatives as references. Former employers, club advisors, teachers, and religious leaders are better choices. Before listing someone as a reference, be sure to ask for his or her permission. Failing to do so would be rude. It can hurt your chances of getting a prompt and favorable response to an employer's inquiry.

Some people do not list references on their resume. Instead, they write the phrase, "References available upon request." A potential employer can ask the job seeker for his or her references.

A portfolio

Starting a portfolio while you are in

school is a good habit. A portfolio is a collection of information about you and your activities. Place honors or awards you receive in your portfolio. Also include news releases mentioning your name. Samples of articles you write are good to include. Also put in examples of work you have done that shows your abilities. Include your resume. Organize your portfolio attractively and place it in a colorful binder. You might want to make an index listing the contents. Some potential employers will want to see your portfolio.

Letters of application

When you send a resume to a potential employer, it should be accompanied by a *letter of application*. The purpose of the letter is to get the employer interested enough to arrange an interview with you.

A letter of application should be sent to the person within a company who has the authority to hire you. In large companies, this is usually the personnel director. In other cases, it may be the head of a department or the president of the company. If you do not know the person to contact, call the company and talk with the receptionist. Ask for the name and title of the person to whom a letter of application should be sent. Ask the receptionist to spell the name so you are sure to get it right, 26-13.

A letter of application should follow the format of a standard business letter. It looks best when prepared on a computer, but may be typed if the typing is done neatly. A letter of application should be placed on good quality paper. It should be an original, not a copy.

A good letter of application is brief and to the point. Only three paragraphs are needed. The first should explain why you

are writing. The second should tell why you think you are right for the job. If you are sending a resume, mention it here. The last paragraph should ask for an interview. A sample letter of application is shown in 26-14.

Job application forms

When you apply for a job, you will probably be asked to fill out a job application form. If so, take this task seriously. Employers often compare the application



26-13 If you do not know the name and title of the person to whom a letter of application should be written, call the company to get it. Have a pen and paper handy.

624 Pine Street
Irvine, CA 92714
May 20, 19xx

Catherine Griffin, Personnel Director
High Fashions, Inc.
300 N. Main Street
Irvine, CA 92714

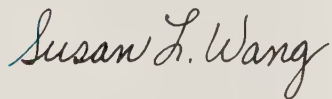
Dear Ms. Griffin:

The fashion merchandising course I am taking in high school has fascinated me. I would like to enter the field of fashion merchandising by working part-time as a salesperson at the High Fashions store in Irvine. The high quality and broad selection of clothes in your stores have always appealed to me.

With the knowledge I have gained in my class, I believe I could be a successful salesperson. My background and qualifications are described in my resume which is enclosed.

May I have an interview to discuss the possibility of working for High Fashions? I can be reached between 4 p.m. and 6 p.m. at 555-3647. I will appreciate the opportunity to talk with you.

Sincerely,

A handwritten signature in cursive script that reads "Susan L. Wang". The signature is written in dark ink and is positioned above the typed name.

Susan L. Wang

26-14 A good letter of application should attract attention to your qualifications.

forms of several job candidates. You will want yours to look neat with accurate information in the correct spaces. A sample job application form is shown in 26-15.

When you fill out a job application form, use your resume as a guide. It contains most of the information you will need. However, don't expect to be able to substitute your resume for an application form. Most companies require all job seekers to complete application forms.

Keep the following tips in mind when you fill out application forms.

- Read through the entire application form before you begin writing. Be sure you understand how to respond to all the questions.
- Look for specific directions such as type, print, or use black ink. Usually these directions are given at the top of an application. But sometimes they are at the end. Follow all directions carefully. Be sure not to write in sections marked "for office use only."
- Write as neatly as possible.
- Respond to every question. If a question does not apply to you, draw a line through the space or write "does not apply." If you simply leave it blank, the employer may think you carelessly skipped over the question.
- Give complete and accurate information. Never lie.
- Be prepared to give the names, titles (if applicable), and addresses of at least three references. Be sure you have asked these people in advance for permission to use them as references.

Job interviews

The goal of your resume, letter of application, and job application form is to get

a job interview. The goal of the job interview is to get a job.

The job interview is the single most important part of the job hunt. It gives the employer a chance to ask questions about your qualifications, work habits, and career goals. It gives you a chance to learn more about the job and the company.

Preparing for the interview. Since the job interview is so important, you will want to prepare yourself for it. Being prepared will help you make a good impression on the employer. It will also help you feel more relaxed and confident.

The first step in preparing for an interview is to research the company. What products or services does the company offer? Who are its customers? How large is the company now? What is its potential for growth? Are most of the employees engineers, accountants, carpenters, or factory workers? Some information may be available in libraries, 26-16. Check references such as Standard and Poor's Register of Corporations, Moody's Industrial Manual, Dunn and Bradstreet's Directory, and state business directories. People are good sources of information, too. Talk to people who work for the company or to people who know others who work there.

Once you've done your research, start thinking about how you might fit into the company. Prepare yourself for questions the interviewer could ask you. "What do you know about our company?" "What kind of work do you want to do?" "Why do you want to work here?" "Why should we hire you instead of all the other applicants?" "What are your career goals?" Your research will help you respond to such questions with appropriate answers.

APPLICATION FOR EMPLOYMENT

PERSONAL INFORMATION

	Date	Social Security Number
Name		
Last	First	Middle
Present Address		
Street	City	State
Permanent Address		
Street	City	State
Phone No.		
If related to anyone in our employ, state name and department		Referred by

EMPLOYMENT DESIRED

Position	Date you can start	Salary desired
Are you employed now?		If so may we inquire of your present employer?
Ever applied to this company before?		Where When

EDUCATION

Name and Location of School	Years Completed	Subjects Studied
Grammar School		
High School		
College		
Trade, Business or Correspondence School		
Subject of special study or research work		

(Continued)

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26-15 Complete application forms accurately and neatly.

Name _____

What foreign languages do you speak fluently?

Read

Write

U.S. Military or
Naval service

Rank

Present membership in
National Guard or Reserves

Activities other than religious
(civic, athletic, fraternal, etc.)

Exclude organizations the name or character of which indicates the race, creed, color or national origin of its members

FORMER EMPLOYERS List below last three employers starting with last one first

Date

Month and Year

Name and Address of Employer

Salary

Position

Reason for Leaving

From

To

From

To

From

To

REFERENCES Give below the names of two persons not related to you, whom you have known at least one year

Name

Address

Job title

Years
Acquainted

1

2

PHYSICAL RECORD

Have you any defects in hearing, vision, or speech which might affect your job performance?

In case of
emergency notify

Name

Address

Phone No.

I authorize investigation of all statements contained in this application. I understand that misrepresentation or omission of facts called for is cause for dismissal.

Date

Signature



LINDA VARNADO, THORNTRIDGE HIGH SCHOOL



LINDA VARNADO, THORNTRIDGE HIGH SCHOOL

26-16 Your school and public libraries can both be good sources of information when researching a company. It is also a good idea to talk to people who know about the company.

You should also make a list of questions to ask during the interview. Like good answers, good questions show that you are serious enough about the job to have done some research. Ask questions about the job and the company. They may help you decide if you really want to work there. "How would I be trained for this job?" "What duties would I have, and what tasks would I perform?" "What hours would I work?" "Would there be opportunities for advancement?" Avoid asking questions about wages and fringe benefits. Those are topics to be discussed after the job is offered.

Going to the interview. First impressions are important in interviews. You will want to look your best. Strive for a clean, neat appearance from head to toe. Your hair should be clean and neatly styled. Men should be cleanly shaven, and women should be conservative in their use of makeup. Clothes should be clean and pressed. A general rule is to wear clothes that are equal to or a step above what you would wear on the job.

As you go to the interview, take all the items you might need. These include a pen, a pencil, and a copy of your resume. You may want to take the list of questions you plan to ask. If you are applying for a job as a writer, illustrator, or photographer, you should take samples of your work.

There is one thing you should *not* take with you—another person. You want to show that you are mature, responsible, and independent.

Finally, be sure you have all the facts. Double-check the date, time, and place of the interview. Know how to get there and how long it will take you to get there. Be sure you know the name of the company,

the name of the interviewer, and the job title for which you are applying. Allow yourself plenty of time so you arrive a few minutes early. That will help you begin the interview feeling calm and collected.

During the interview. Begin the interview by greeting the interviewer with a firm handshake. When a seat is offered, sit in a comfortable position, but do not slouch. Try to look and act interested and alert, but relaxed. Do not smoke or chew gum.

Listen carefully to what the interviewer says and the questions he or she asks, 26-17. Some questions require just a yes or no answer. Others require longer responses. Think before you speak, so your answers are appropriate. Speak slowly and clearly, using good grammar. Don't brag, but don't be bashful about your accomplishments. Be enthusiastic, but not pushy or insincere.

Above all, be honest. It is never to your advantage to lie.

Be prepared to answer questions about education, work experiences, interests, skills, and goals. You may be asked about your best and worst subjects in school. You may be asked about your personal strengths and weaknesses. You may be asked several questions about other jobs. "What other jobs have you had?" "Which did you enjoy most (or least)? Why?" "Why did you leave?" "Have you ever been fired? If so, why?" Your expectations for the job and your plans for the future may also be questioned. "What do you expect to be paid?" "How many hours a week can you work?" "What do you plan to be doing five years or 10 years or 20 years from now?"

When the interviewer has all the necessary information about you, he or she



26-17 An interview is your chance to sell yourself to a potential employer.

will probably ask if you have any questions. This is the time for you to ask the questions you have prepared. After finding out more about the job during the interview, you may have some additional questions you would like to ask.

You might be offered the job right then and there. If so, you'd need to know when you would start, what hours you would work, and how much you would be paid. You would also want to know about any fringe benefits. If everything sounded good, you could accept right away. If you wanted to think about it, the interviewer would probably give you a deadline for your decision.

In most interviews, the job applicant is not offered a job. Instead, the interviewer usually takes time to consider your qualifications as well as those of other applicants. The interviewer may tell you that he or she will call you on a certain date. Or you may be asked to call the interviewer at a later date. If nothing is said, ask when a decision will be made. You have the right to know what to expect next.

Regardless of what conclusions are reached, end the interview by shaking the interviewer's hand. Thank him or her for taking the time to talk with you and to consider your qualifications. If you are seriously interested in the job, be sure to say so.

After the interview. As soon as you have a chance to be alone, go over the interview in your mind. Make notes about the questions you were asked. Were there any that took you by surprise? Think about your answers to all of the questions. Which were your best ones? Which do you need to improve?

Evaluating your performance during an interview will help you do even better in

your next interview. It will also help you decide what to write in your *follow-up letter*, 26-18. The main purpose of this letter is to thank the interviewer for taking the time to talk with you. It also gives you an opportunity to fill in any gaps left open after the interview. If you forgot to mention an important fact during the interview, you can include it in the follow-up letter. Or suppose you think the interviewer still doubts your ability to handle the job. You could explain in your follow-up letter why you believe you are qualified. The follow-up letter gives you another chance to state your case and show your enthusiasm. It keeps your name in front of the interviewer, and it may help you to get the job.

If the interviewer promised to call you on a certain date, be sure you are available to receive the call. If you were asked to call the interviewer, be sure to do so. Suppose you were told you would "hear something in about two weeks," but two weeks go by without word. Then you have the right to call the interviewer and politely ask if a decision has been made.

Don't be too discouraged if you don't get the job. Few job seekers get a job after just one or two interviews. Try to maintain a positive attitude. Think of each interview as a learning experience. Eventually, you should be able to get a job that's just right for you.

SUCCEEDING ON THE JOB

Getting a job is the end of the job hunt, but it is just the start of a new work experience. It's a chance not only to earn money, but also to learn new skills, gain experience in the world of work, and develop a work ethic.

624 Pine Street
Irvine, CA 92714
May 30, 19xx

Catherine Griffin, Personnel Director
High Fashions, Inc.
300 N. Main Street
Irvine, CA 92714

Dear Ms. Griffin:

Thank you for taking the time to talk with me yesterday.
I enjoyed learning more about your stores and the duties
of your sales staff.

After meeting with you, I am even more enthusiastic about
working for High Fashions. I am confident that I could
be a successful salesperson.

I look forward to hearing your decision and hope it will
be a favorable one.

Sincerely,

A handwritten signature in cursive script that reads "Susan L. Wang".

Susan L. Wang

*26-18 After a job interview, it is a good idea
to send a follow-up letter.*

A positive attitude is important when you start a new job. Listen carefully when your duties are explained to you. Concentrate on your work so you will be able to do it well. Perform your duties to the best of your ability, without complaining. Once you can handle your job well, watch for opportunities to assume new responsibilities, 26-19. That's how you learn even more skills and advance in the world of work.

Getting along with co-workers is a major factor in succeeding on the job. Be pleasant and fair. Do your share of the work, and respect others for the work that they do. Use the leadership skills and traits that you have developed. For instance, show that you are a responsible and dependable person. Use good communication skills. Be enthusiastic, stress cooperation, and set good examples. Keep an open mind, and listen to new ideas. Getting along with your co-workers will help you enjoy your work and achieve success.



LINDA VARNADO, THORNBRIDGE HIGH SCHOOL

26-19 This employee knows she can advance to department manager if she does a good job in her present position.

As you work, you will develop a work ethic. A *work ethic* is a standard of conduct for job performance. Your concepts of fairness, right and wrong, and good and bad affect your work ethic.

A traditional work ethic is to give an honest day's work for an honest day's pay. Adopting this work ethic benefits both you and the company. The company gets the results of your hard work, done to the best of your ability. You get not only a paycheck, but also personal satisfaction. When you are a conscientious worker, you feel good about the work you do every day. Such pride and personal satisfaction make your work seem important and enjoyable.

ENTREPRENEURS

A growing number of people are choosing to be their own bosses. They are known as *entrepreneurs*. They organize, manage, and assume the risks of their own businesses.

The career paths of entrepreneurs are varied, as the following examples show. Sherry began cutting her neighbor's grass when she was a teenager. After graduating from high school, she worked at a local nursery. She worked hard and learned a lot about lawns, trees, bushes, and flowers. When she felt ready, she began her own landscaping and yard care business.

Joel grew up in a family with four younger siblings. He enjoyed helping his parents care for them. As a teenager, he was a popular neighborhood baby-sitter. In college, he majored in child development. After working in a few different child care centers, he opened his own.

Rhoda took clothing classes at school and worked in the alternations department

of a large clothing store for three years. Later, when she and her husband had their first child, Rhoda decided she wanted to stay at home with the baby. She opened up an alterations business in her home.

For some people, entrepreneurship is a lifelong career goal. By chance or by plan, they develop a hobby, a special talent, or a part-time job into a full-time career.

For others, entrepreneurship fulfills short-term career goals during a certain stage of the life cycle. Parents who want to spend more time with their children while maintaining a place in the world of work often begin their own businesses. When their children are grown, they may or may not continue those businesses. In other cases, people work as employees until retirement age. Then they begin businesses of their own.

Entrepreneurship has both pros and cons. People generally enjoy the chance to be their own bosses. They like the flexibility and the challenge of seeing how much money they can make. Many view the ability to work at home as a big plus.

On the other hand, the lack of interaction with other adults in a business setting can be depressing. Beginning entrepreneurs may be frustrated with the length of time it takes to establish their businesses. They may have problems with finances, scheduling, and time management.

Those thinking about entrepreneurship should work to prepare themselves. They should acquire some knowledge of accounting, business management, and business law. They need communication skills, decision-making skills, time management skills, and self-discipline. They also need a thorough understanding of the specialty areas of their businesses. They should

discuss their ideas with attorneys, financial advisors, and business counselors. They may want to contact an office of the Small Business Administration (SBA). The SBA was established by the federal government to help people get into business and stay in business. It offers a number of different programs.

Entrepreneurial opportunities related to clothing are varied. You could own an alterations business or a dressmaking and tailoring shop, 26-20. You could run a laundry and dry cleaning business. You could open a boutique, specializing in teenage fashions, bridal wear, children's clothes, women's shoes, or athletic wear. Another option is a wardrobe consulting business. You could help people plan and build wardrobes to meet their business, social, and leisure needs. The possibilities are many and varied. That's what makes the idea of entrepreneurship so intriguing.



TEXAS DEPARTMENT OF TRANSPORTATION

26-20 This woman has applied the skills she learned in clothing classes to her job at a clothing manufacturing company.

to know

entrepreneur	portfolio
follow-up letter	quorum
leader	resume
letter of application	special committee
order of business	standing committee
parliamentary	work ethic
procedure	

to review

1. Name five leadership traits.
2. What are the full names of the following organizations?
 - a. FHA.
 - b. HERO.
 - c. FFA.
 - d. DECA.
 - e. FBLA.
 - f. HOSA.
 - g. VICA.
3. List the 10 steps in the order of business outlined in *Robert's Rules of Order*.
4. Name one advantage and one disadvantage of having a job while going to school.
5. _____ employment agencies do not charge fees for their services.
6. What is the purpose of the job objective on a resume?
7. Who might be a good reference to list on a resume?
 - a. A parent.
 - b. A brother or sister.
 - c. A teacher.
 - d. All of the above.
8. To whom should a letter of application be sent?
9. List three steps in preparing for an interview.

10. What are two purposes of the follow-up letter?

11. A traditional work ethic is to give an _____ for an _____.

12. What are two advantages and two disadvantages of entrepreneurship?

to do

1. Work in small groups to prepare skits showing leadership skills being used in school or job settings.

2. Find out what vocational student organizations are available in your school. Ask a representative from each organization to tell your class about the group's activities and goals.

3. Conduct a meeting according to parliamentary procedure. Plan ahead so you have the necessary officers and committee chairpersons, business to discuss, and a program.

4. As a class, discuss the pros and cons of having a job while going to school. Ask each class member to participate in the discussion.

5. Look in the want ads to find a job opening that appeals to you. Prepare a resume with that job in mind. Write a letter of application. (Whether or not you send it and actually apply for the job is up to you.) Prepare for an interview for the job, and write a follow-up letter.

6. Write a description of the "ideal" employee, from an employer's point of view.

7. Ask three entrepreneurs in your community to talk to your class about their experiences in establishing their own businesses.

8. Design a bulletin board on the theme "Entrepreneurial Opportunities Related to Clothing."



Careers in Textiles and Clothing

After studying this chapter you will be able to

- describe the textile industry and some of the products it develops.
- list several careers in the textile industry and explain the duties performed by people in those careers.
- explain how the apparel production industry works.
- identify several career opportunities in apparel production.
- discuss ways consumers are influenced by people who work in fashion merchandising and fashion promotion.
- describe the education and training needed for various careers in textiles and clothing.
- give examples of how to manage multiple roles.

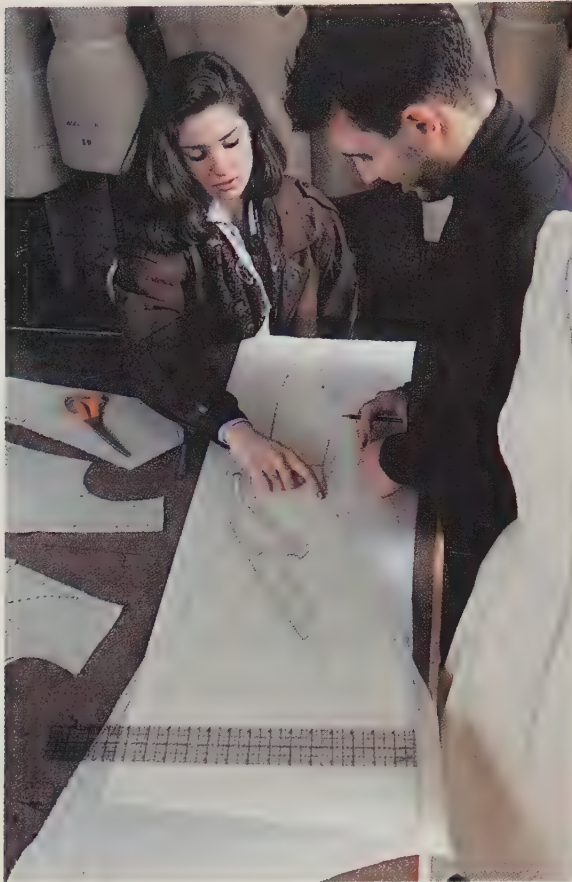
Do you love clothes? Are you always eager to see what the new fashions will be for the next season? Are you fascinated by fibers that can be made into thousands of items from bridal gowns to bulletproof vests? If so, a career in the exciting, creative field of textiles and clothing could be for you, 27-1.

Careers in textiles and clothing can be grouped into three areas: the textile industry, apparel production, and fashion merchandising. Each is a separate field, but are all related.

The textile industry deals with fibers, yarns, dyes, finishes, and methods of fabric production. Apparel production includes the designing and making of garments. Fashion merchandising is concerned with promoting and selling new fashions. This means people are shown what is new in designs, colors, and fabrics and are convinced to buy them.

THE TEXTILE INDUSTRY

The *textile industry* includes all the people and processes involved in making fibers



FASHION INSTITUTE OF TECHNOLOGY

27-1 Many exciting and rewarding careers are available in the field of textiles and clothing.

and fabrics. The ranchers who raise sheep for wool and the farmers who grow cotton are part of this industry. The chemists who develop manufactured fibers are part of the textile industry, too.

The textile industry is one of the oldest and largest in the nation. The long road from fibers to fabrics requires many processes and thousands of employees.

You may think of textiles as only clothing. This is the largest use of textiles, with home furnishings following close behind. But there are also many other uses

of textiles. See 27-2. The space program, transportation, personal safety, sports, and medicine could not have advanced to the present level without the textile industry.

A wide variety of job opportunities exist within the textile industry. As in any industry, production workers outnumber management personnel.

Many jobs require college degrees, others are available with a high school education. A number of colleges offer undergraduate and graduate degrees related to textiles. Such programs include computer science, management, chemistry, engineering, and other specialized studies. Technical schools, vocational schools, and community col-



NATIONAL COTTON COUNCIL OF AMERICA

27-2 Towels and washcloths are the third largest use of textiles.

leges also offer training for employment in the textile industry.

Textile designing

Textile designers develop designs for fabric, colors, patterns, prints, and weaves. See 27-3. In some textile companies, designers work at drawing boards to sketch their designs. Then the designs are tried on hand looms. Finally, the designs go into the production of fabric. In other companies, designers use computers to develop designs.

The difference between textile designing and fashion designing is important. Textile designers produce fabric designs.

Fashion designers work with finished fabrics. They design garments and accessories for men, women, and children.

Textile designers must have a technical background as well as creative skills. They need to understand what machines can and cannot do in the production of fabric. They also must be familiar with the latest changes in finishes, dyes, and equipment. They need to understand production costs. In this way, they can be creative and still meet the needs of the company.

Manufacturing

More people are employed in the manufacturing phase than in any other

27-3 Textile designers need both a technical background and creative skills to develop designs for fabrics.



JOHN SENZER, FASHION INSTITUTE OF TECHNOLOGY

phase of the textile industry. All skill levels are involved. See 27-4.

Textile plant operations include many processes such as spinning, dyeing, weaving, knitting, and finishing. Each of these steps requires special machinery, 27-5. The textile industry depends on the people who operate these machines. The nature of each job varies with the kind of machine used in the job. Some are operated by electronic or computerized controls, while others are hand operated, 27-6.

Textile machines must be handled with a great degree of skill and responsibility. People who control them must be able to operate them alone and without constant supervision. On-the-job training is generally given to these operators. A high school education is often adequate background for some beginning machine operators.

Some employees who use machines in their work are *spinners*, *colorists*, *loom*



AMERICAN TEXTILE MANUFACTURERS INSTITUTE

27-4 *The American textile industry invests over a billion dollars a year in new plants and equipment and employs more than three quarters of a million people.*



NATIONAL COTTON COUNCIL OF AMERICA

27-5 *People in the textile industry work with many machines. Here, thousands of cotton yarns laid side by side are treated prior to weaving.*

operators, and *machine operators*. They are usually paid on an hourly scale. Their wages vary according to how long they have worked and what machines they operate.

Machine technicians are responsible for keeping the textile machinery in good working order. They may be called upon to solve problems in every type of production machine in the plant. One day they may work on a large gear chain or the delicate controls of a knitting machine. Another day they may solve problems in a computer system.

Textile engineers

Engineers play an important part in textile manufacturing. They need college degrees and may have to go through a training program to become familiar with the operations of the plant.

Textile engineers may have a degree in chemical, computer, electrical, industrial, or mechanical engineering. Each degree will prepare them for a different engineering job. A *chemical engineer* might work in a department where fabric dyeing or printing is handled. A *computer engineer* might be sure that the machines that produce the fabrics are correctly programmed. *Industrial engineers* are responsible for seeing that all the production operations are

performed. They look for better and less expensive ways of handling production without reducing quality. Industrial engineers must be experts in work method, efficiency, and production standards. As materials are passed from one department to the next, they determine the pattern of work flow and what each machine will do.

Opportunities to climb the career ladder as a textile engineer are good. There are many areas where they may work, such as new product development, quality control, or project management. They might move from one area to another. In this way, other manufacturing processes will become familiar to them. Then, they might advance to higher levels of management responsibili-



FASHION INSTITUTE OF TECHNOLOGY

27-6 Students might study for a career in many different areas of textiles. Examples are textile engineering, textile science, textile research, or textile design.

ty. As they advance, so does their value to the company and thereby their income. Some industrial engineers become plant engineers.

Plant engineers make sure that all systems are operating properly. These include machinery operation, heating, air conditioning, electrical, materials handling, and environmental control. They must be expert problem solvers in all areas of production.

Textile converters

Many decisions about the production of fibers, yarns, and fabrics are the responsibilities of *textile converters*. They decide what fibers to use, what widths and weights of fabrics to weave or knit, and how many yards to produce. They select dye colors and choose finishes that will help the fabrics perform as expected.

Setting prices is another task of textile converters. This is known as “costing the fabric.” All the costs involved in producing the fabric are computed. Then a margin of profit is added to determine the fabric’s selling price.

Large textile firms may employ many converters and assistant converters. Each might be a specialist in certain types of fabrics for a particular market. For example, fabrics produced for a manufacturer of children’s clothing must be strong and durable. Fabrics produced for ladies’ scarves must be lightweight and delicate.

Textile converters must always be aware of the needs of their customers. They should be good at details and record keeping. Other valuable assets include good organizational skills, the ability to work under pressure, and good communication skills.

Laboratory technicians

Laboratory technicians are trained to perform tests on fibers, yarns, and fabrics in a laboratory. They make sure the products meet certain standards of quality. Machines are designed to test how well and how long a fabric will wear under certain conditions. Various tests are performed during many steps of production. They are done to assure quality control throughout the process, resulting in a superior finished product.

Lab technicians complete textile technology programs in colleges or technical schools. They must be able to organize their own work and to follow precise instructions. They should enjoy doing detailed work, and they should be able to write accurate and thorough reports of test results.

Research and development

Developing new products to meet consumer demand and finding ways to produce these products are important parts of the textile industry. *Research* is working to find new products such as fibers, weaves, dyes, and finishing techniques. *Development* means finding practical ways to use the products the researchers create, 27-7.

A couple of examples will show how the process of research and development works. Several years ago, researchers created finishes to make fabrics wrinkle-resistant. People who worked in development found ways to apply these finishes on fabrics, and ironing chores were lessened. At about the same time, textile researchers worked on ways to prevent fabrics from getting dirty. People in development worked to apply the researchers’ findings. As a result, we have soil-resistant carpets,

upholstery fabrics, and garments.

Other products of textile research and development include space suits, inflatable buildings, and flame-retardant sleepwear. People in this part of the textile industry may also be asked to find ways to lower production costs. They may work to improve current machines and manufacturing processes or to design new ones.

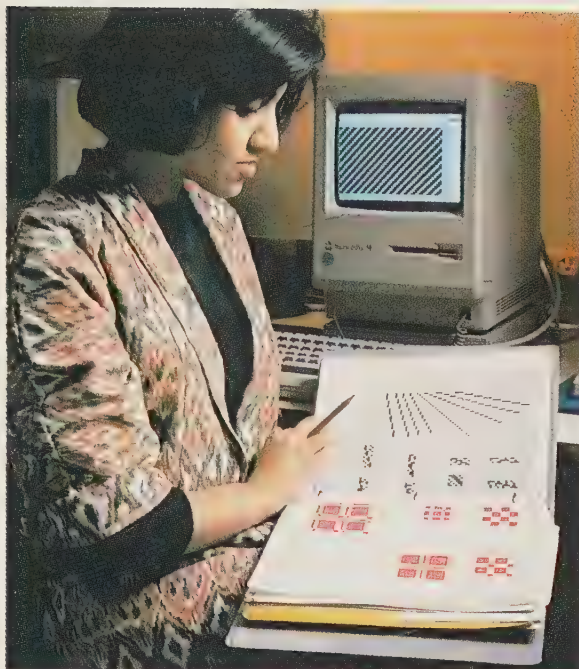
A career in textile research and development requires education in chemical, mechanical, electrical, or textile engineering; physics; or textile chemistry. An advanced degree increases the researcher's value to the company and may be required for some jobs, 27-8.

In addition to education, people in research and development need certain traits such as creativity, flexibility, and dedication. They must be able to find solutions to real problems. They must be open-minded enough to find ways to improve quality, reduce costs, and increase efficiency. They must be dedicated enough to stick with a project from the original idea to the end result.

Marketing

Marketing is the process of buying and selling goods. Before fabrics can be sold, other processes take place. Raw materials such as fibers and yarns must be purchased. Manufacturers must decide what raw materials to buy and what fabrics to manufacture. They base their decisions on careful studies of what consumers want.

Market analysts are the people who study fashion changes and consumer demands. They tell manufacturers what fabrics will be needed for the new fashions. Their research is done far in advance so the fabrics will be ready when the clothing



FASHION INSTITUTE OF TECHNOLOGY

27-7 A career in textiles might be good for someone who enjoys science.



MANUFACTURED FIBER MANUFACTURERS ASSOCIATION

27-8 Advanced textile technology courses could lead to a career in research and development.

manufacturers want to buy them.

Textile *salespeople* are another part of the marketing division. Selling is the last step in the marketing process. Salespeople show fabric samples to manufacturers of men's, women's, and children's clothing. The manufacturers buy the fabrics they will use to produce garments for the next fashion season. Salespeople also sell their fabrics to fabric departments in stores and to fabric shops.

Marketing and sales are highly competitive fields. Careers in these areas often require a great deal of travel. They are exciting, but full of pressure, competition, and hard work.

Administration

Developing, producing, and marketing fabrics are the principle functions of a textile plant. However, for these functions to run smoothly, they must be organized and coordinated. The people who do this are called administrators. Some of their titles may include: *financial managers, office managers, personnel managers, purchasing agents, and accountants. Public relations specialists, transportation managers, and tax specialists* could also be included.

The education required depends on the particular job. Advancement depends on a person's ability to do the job well and to get along with people.

Computer science

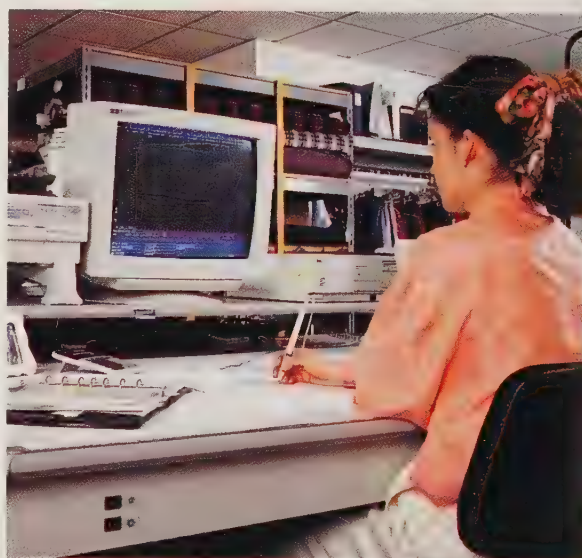
Computer science is the fastest growing field in the textile manufacturing industry. Computers have changed the way many companies do business. Jobs that were once handled by several people are now done faster and more easily by one person and a computer.

Textile designers use computers to develop their designs, 27-9. Machines that weave or knit are operated by computers.

Administrators of textile companies use computers to figure the costs of fabrics and to analyze and record sales. Computers keep track of inventory, shipping, billing, and payroll.

Jobs in *computer programming* require special training. Vocational and technical schools have specialized courses in computer training. A college degree in computer science or business administration would help you advance faster in the computer field. You would be able to design software as needed for the production of fibers, fabrics, and apparel.

Computer technicians are needed to repair computers. Vocational and technical schools offer courses in this area. Computer manufacturers offer training for the repair of their particular models.



PENDLETON WOOLEN MILLS

27-9 *Computerized pattern making has simplified the work of pattern makers.*

APPAREL PRODUCTION

Apparel production includes all the people and processes involved in designing and making garments. It is the second largest manufacturing industry in the United States. The largest concentration of garment factories is in the Middle Atlantic region. The state of New York alone has hundreds of factories that produce garments. The leading manufacturers have design and marketing offices there.

On the West Coast, Los Angeles is the headquarters for the garment industry. Small garment factories are located throughout the United States. Even in areas without factories, employment in some phase of apparel can usually be found. In several large cities such as Atlanta, Dallas, and Chicago, you will find *apparel marts*. These are places where many garment manufacturers have showrooms and sales offices.

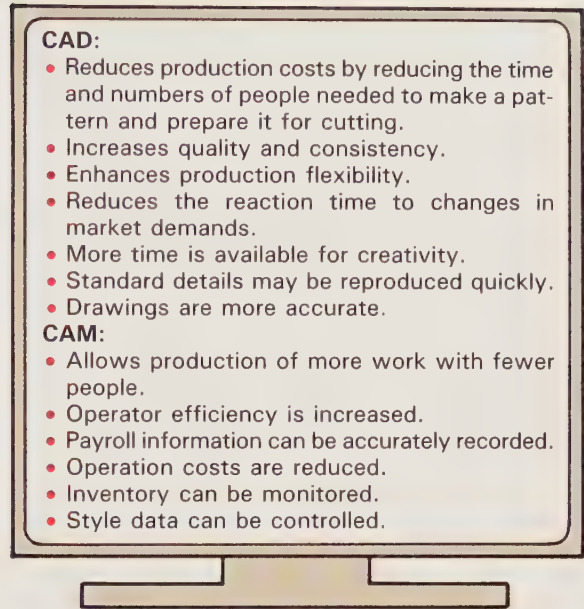
CAD and CAM

New technology has changed, and most likely will continue to change, apparel design and production methods. CAD, computer-aided design, and CAM, computer-aided manufacturing, are computer-based systems. Chart 27-10 lists some of the advantages of CAD and CAM.

CAD is used to create, modify, and communicate pattern designs. Using a computer, a designer can change seam lines, move darts, or change darts into pleats or gathers. A pattern can be plotted on a screen and then printed out.

CAM is used in planning and monitoring garment production. It is often used in sewing shops where piecework is done. Each workstation may have a computer ter-

COMPUTER-BASED SYSTEMS IN APPAREL DESIGN AND PRODUCTION



CAD:

- Reduces production costs by reducing the time and numbers of people needed to make a pattern and prepare it for cutting.
- Increases quality and consistency.
- Enhances production flexibility.
- Reduces the reaction time to changes in market demands.
- More time is available for creativity.
- Standard details may be reproduced quickly.
- Drawings are more accurate.

CAM:

- Allows production of more work with fewer people.
- Operator efficiency is increased.
- Payroll information can be accurately recorded.
- Operation costs are reduced.
- Inventory can be monitored.
- Style data can be controlled.

27-10 Computer-based systems are changing design and production methods. This new technology has several advantages over more traditional production methods.

минаl. This aids in balancing the sewing line by tracking inventory and piece rate data.

Apparel manufacturers use computers to develop patterns of different sizes and to cut through many layers of fabric. Sewing machines are often computerized. They are designed to do a specific task such as making pleats or sewing on cuffs of shirts.

CAD and CAM are growing fields. Many trade schools and colleges offer courses in these areas. However, in addition to CAD and CAM courses, an understanding of basic apparel design, pattern making, and production procedures is still necessary.

Fashion designing

Fashion designers create new designs and ideas for new clothes and accessories. They may specialize in women's, men's, or children's clothing, 27-11. They may specialize further in certain types of garments such as men's coats, women's dresses, or children's night wear. Some may choose to specialize in an accessory such as shoes, hats, or handbags.

Designers must be creative and imaginative. They must have artistic ability and a flair for clothing. They must be knowledgeable about fabrics. All the processes used in making fabrics and garments should be familiar to them. They need this knowledge to be sure the items they design can be produced within a given price range.

Where do designers get their ideas for new styles? Many designers get their inspiration from examining new swatches of fabrics from the textile plants. Many use museum exhibits of historical clothing, art galleries, and libraries as resources. World events often influence fashion trends.

A fashion designer is the first person involved in making a garment. The first step is an idea. Sketches are made until the designer is satisfied with one. Then fabric is cut and fitted to a dress form following the details of the sketched lines. This is called *draping*, 27-12. Later, the fabric pieces are removed from the dress form and are sewn together by a *sample maker*. A live model then shows the sample garment to *production managers*. They consider the design itself, the latest fashion trends, and the costs of making garments from that design. If the design is accepted, the garment is put into production.

Designers are generally expected to create two or more collections or *lines* each year.



JOHN SENZER, FASHION INSTITUTE OF TECHNOLOGY

27-11 This fashion designer has chosen to specialize in menswear.



FASHION INSTITUTE OF TECHNOLOGY

27-12 Draping is done to transform a designer's sketch into an actual garment.

There is usually a new line for each season. In large companies, there may be as many as 40 to 75 new items in each line.

Designing is done for low, moderate, and high-priced clothing. Less costly garments are often copies of more expensive ones. For example, an expensive suit may be made of silk. The less expensive one in the same design may be made of polyester. Leather buttons and belts may be replaced with vinyl ones. Less expensive garments would require less fabric and fewer, less detailed steps in construction.

Very few designers get a first job as a top designer. They usually begin in another position. Eventually they move up into a design position. Some entry level jobs that may lead to design are *sample maker*, *sketching assistant*, *sketcher*, and *design assistant*.

To become a designer, special training is needed. High school courses in art, clothing and textiles, computer science, history, and psychology would be helpful. Specialized fashion design programs of two or four years are offered in fashion institutes, trade schools, and universities.

The production line

The process of making a garment involves many steps that are performed by many workers. After the sample maker completes the designer's new garment, changes or additions may be made. Then a production *pattern maker* makes a perfect "master pattern." See 27-13. *Pattern graders* take the master pattern and make it into a wide range of sizes. Each piece of the master pattern is reduced or enlarged to get the different sizes. Computers are often used for this process.

After the graded or sized patterns are

made, *spreaders* lay out the fabric on a long table. The fabric must be smooth and straight. A machine can help get the fabric ready.

Markers place the master pattern on top of the layers of fabric. The pieces must be placed so that as much of the fabric can be used as possible. When thousands of garments are made, saving a few inches of fabric per garment can add up to many yards. At this point, *cutters* cut through the layers of fabric with electric knives or laser beams. As many as 100 layers often a foot high can be cut at a time. Computers are often used in the marking and cutting stages of production.



JOHN SENZER, FASHION INSTITUTE OF TECHNOLOGY

27-13 *Pattern making is both an art and a skill. This student is learning about this important step in apparel production.*

The hundreds of pieces of cloth are numbered, gathered, and put into bundles by *sorters* or assemblers. The bundles are then taken to the sewing room. Here *sewing machine operators* sew the pieces together. The operators work as specialists in one specific task needed for each garment. This may be sewing on sleeves, making buttonholes, or attaching labels, 27-14. In very expensive clothes, it is possible for each sewing machine operator to sew the entire garment.

The sewn garments are given to *finishers*. They add outside stitching or any hand sewing that may be required to finish the garments. *Trimmers* remove loose threads, lint, and spots from the finished products. *Pressers* iron out the wrinkles and press creases and pleats in place. *Inspectors* check the garments and send them to the shipping room, 27-15. Here the garments are packed and sent to wholesalers by *shipping clerks*.

Many entry level jobs in apparel production do not require education beyond high



BASSETT-WALKER, A DIVISION OF VF CORPORATION, WYOMISSING, PA

27-14 The work of sewing machine operators is highly specialized.



NATIONAL COTTON COUNCIL OF AMERICA

27-15 Inspectors check garments before they leave the manufacturer.

school. Because of the technical nature of most jobs on the production line, apprenticeship programs or on-the-job training is offered. However, training at trade or vocational schools could be helpful in getting a job or advancing to a better job. Knowing how to handle production equipment would be an advantage. For instance, special training is needed to operate the sewing machines used in production. They are much faster and more powerful than those used for home sewing. Someone with such training would be hired before someone without it.

Engineering and management

In addition to production line workers, other people have careers in the production process. These people have college degrees in apparel production, apparel manage-



INTERNATIONAL WOOL SECRETARIAT

27-16 New clothing designs are modeled at special fashion shows where buyers will select clothing for their stores.

ment, or engineering. Some courses required for these positions include production management, methods engineering, plant engineering, and managerial accounting. Good communication and problem-solving skills are necessary. These workers must deal with people with varied personalities. They must be able to give instructions clearly and accurately.

Production engineers handle a variety of engineering projects. One such project may be a time-and-motion study. This study can determine how quickly and efficiently each step in the production process should be completed. These engineers also work with other production systems. They

help select machinery and choose operation methods for top performance.

Costing engineers determine the price of producing an item of clothing or an accessory.

Quality control engineers develop standards of quality for garments and are responsible for seeing that those standards are met. They conduct tests of products at each step in the manufacturing process to check for quality.

Production managers estimate production costs and schedule for flow of work in the plant. They supervise all aspects of production activities in the plant.

Plant managers have total responsibility for what happens in the company. They are sometimes called chief engineers.

Marketing

Marketing in the apparel industry is primarily wholesale. To understand wholesale, you must understand retail. The selling of quantities of goods for resale is known as *wholesale*. Selling small quantities of goods to consumers is known as *retail*. In the apparel industry, manufacturers sell to retail buyers who represent shops and department stores (wholesale). Shops and department stores sell to individual customers (retail).

New fashions are created at least a "season" or six months before they are ready for sale in stores. After samples are made, they are placed in showrooms for retail buyers to see. The buyers order the styles and amounts they believe customers of their stores will buy.

Special fashion shows are often held for buyers. Models wear the new clothing designs to help convince buyers to order them, 27-16. Fashion writers and fashion

promotion specialists are also invited to these shows. They gather information about the new fashions. When they return to their home cities, they begin informing the public about the newest fashions and colors for the coming season.

As manufacturers receive orders from retail buyers, the clothes are scheduled for production. The stores will have deliveries in about three months. The clothes that buyers order in spring are in stores by summer so customers can buy them in time to wear for fall.

Custom work in apparel production

If you like to sew, tailoring or alterations work may be a career for you. Many people have their clothing *custom-made*. This means they ask someone to make garments especially for them. A desire to have one-of-a-kind garments could be one reason for wearing custom-made clothes. Figure faults that prevent ready-made clothing from fitting well may be another reason.

Tailoring is a form of custom work. Suits and coats are the garments most often tailored. It is time-consuming, but many people are willing to pay high prices for well-tailored garments.

Tailors take a great deal of pride in their work. The finished garments look nicer and fit better than most ready-to-wear clothing. Fabric is often sold at the tailor's shop which provides additional income for the tailor.

Many clothing stores hire an *alterations person*. Altering clothes can be more difficult than doing the original construction. To have a full or part-time career in alterations, you must be able to sew well, work fast, and fit clothing properly. You may be able to work for more than one store, if

the stores are small. Sometimes you can do the work in your own home.

Some duties of alterations specialists are:

1. Deciding what fitting problems exist.
2. Marking and pinning garments before altering them.
3. Shortening or lengthening sleeves, hems, waistlines, and darts.
4. Repairing merchandise that is damaged before the customer buys it.
5. Changing trims, buttons, etc., to satisfy the customer.

If you are considering a job in this field, take all the courses related to clothing and textiles that you can. Knowledge of construction techniques and fabric characteristics will be helpful. Specialized training is available in many trade and vocational schools. Steady employment is seldom a problem. Trained people in this area are in demand.

FASHION MERCHANDISING

Fashion merchandising includes all the phases of buying and selling clothes and accessories. It is closely related to the field of fashion promotion. *Fashion promotion* includes all the efforts made to inform people of what is new in fashion and convincing them to buy it.

Many people are involved in fashion merchandising and promotion. Some of their job titles are merchandise managers, buyers, salespeople, stock clerks, market researchers, fashion coordinators, display directors, illustrators, writers, models, and photographers. See 27-17.

The world of fashion offers many exciting careers. Backgrounds in writing, art, clothing and textiles, public speaking, psychology, and business are all helpful.

Many careers require a college degree or additional training after high school.

Merchandise managers

Merchandise managers are responsible for the operation of one or more departments within a store. This could be women's coats, children's wear, or men's shoes. New shops within the store such as boutiques may be the result of creative merchandising managers.

Seasonal sales, promotional sales, and special events are planned by merchandising managers. Deciding what merchandise is to be sold, at what price, is their responsibility. Long-range planning is necessary for successful events.

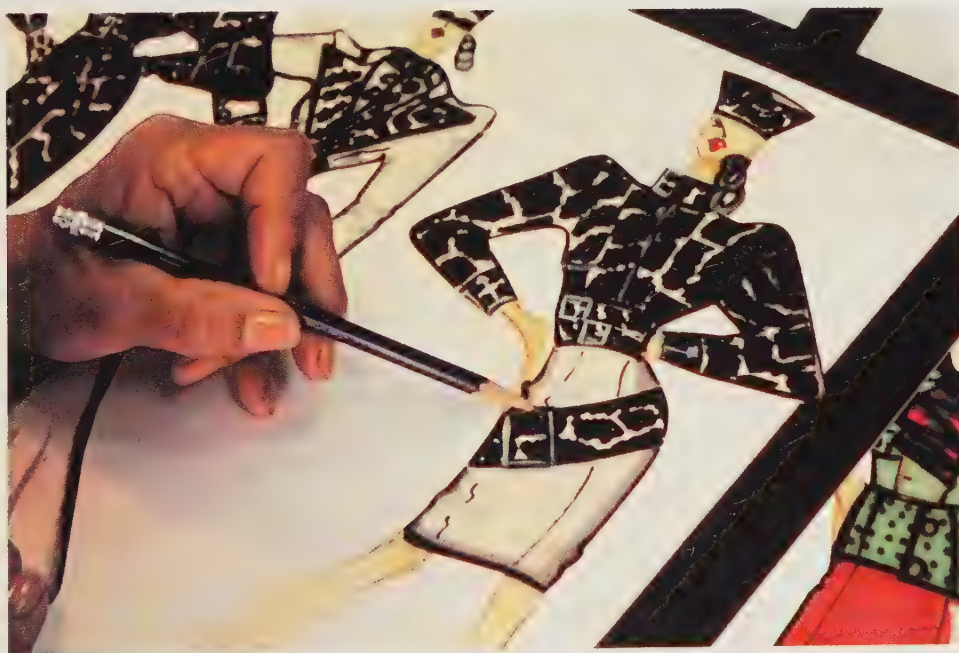
Merchandise managers work closely with salespeople to help them keep their depart-

ments looking attractive and up-to-date. In-service meetings and training programs keep salespeople aware of the latest trends in fashion and new methods of selling merchandise. These are scheduled by the merchandising managers.

Merchandising managers are in charge of the store's buyers. They set the budgets for the buyers which tell them how much money they may spend at market for new merchandise.

Long hours of work under pressure are normal for most merchandising managers. They must complete schedules and meet deadlines for their special events.

Merchandising managers often begin their careers as salespersons. They are often promoted to buyers before moving up to managers.



INSTITUTE OF DESIGN AND MERCHANDISING

27-17 Fashion illustrators make sketches that will be used to promote new fashions to the public.

A high school education could eventually lead to a merchandise manager's job after many years in retailing. However, a college degree with a major in fashion merchandising, business, or marketing is preferred, and advancement would be easier.

Buyers

Buyers are responsible for selecting the clothes and accessories to be sold in the stores they represent. They may go to major fashion centers, called the "market," several times a year. The showrooms at the market display manufacturers' merchandise. Buyers order the items and amounts they want to be delivered to their stores. Buyers who work for large stores or chains of stores may travel worldwide looking for unusual merchandise for their customers.

In a specialty shop, a buyer may be responsible for all the merchandise sold in the store. Large stores may have buyers for each department. In a small store, the merchandising manager and buyer may be the same person.

Keeping tabs on what customers are buying in their stores is a major job of buyers. Such records are usually kept in computers. Buyers are interested in what styles, colors, and sizes are selling best. The profits of a store depend largely on the decisions of its buyers. If merchandise is bought that does not sell, it will have to be discounted, maybe several times. The store may not make any profit, or it may even lose money.

Buyers work closely with merchandise managers, display directors, fashion coordinators, and salespeople. See 27-18. Everyone must work together to maintain the image the store wants to present to the public. This could be as an exclusive bou-



SPIEGEL, INC.

27-18 Buyers must coordinate their efforts with the work of other fashion merchandising employees for successful results.

tique, a high-class department store, or the best budget-priced store in town.

A high school education is a must for buyers. Further education in a college, vocational school, or fashion institute is helpful. Business courses are valuable because of the budgeting and pricing that buyers must do. Training in display and advertising may also make a buyer's job easier and advancement faster.

Salespeople

Salespeople are important employees in a store. They often develop long-term relationships with devoted customers. They learn the tastes of these customers and inform them when garments they might like arrive at the store.

Salespeople are the only store employees that most customers ever meet. When salespeople are pleasant and helpful, customers are impressed. They are also pleased when salespeople can answer questions about fabrics, fashions, garment construction, and care instructions. Customers who are treated well leave with a favorable impression of the store.

Good salespeople keep the displays of merchandise attractive. They receive payments and package items that are sold. They may also be responsible for handling exchanges and returns.

Many beginning retail selling positions pay a flat salary or an hourly wage. Some salespeople are paid a salary plus a percentage of their total sales. This percentage is called a *commission*. Salespeople may also get an employee discount on merchandise they purchase from the store.

A high school diploma is usually required for a full-time job as a salesperson. Many stores have on-the-job training as well as a short training period before a person starts to work.

A degree in merchandising, marketing, retailing, or a related area will allow a person to move up the career ladder quickly. Colleges and fashion institutes offer courses in fashion merchandising, sales promotion, consumer motivation, retail store management, accounting, and business law.

Stock clerk

A starting position or entry level job in retail is often as a *stock clerk*. This is not to be considered an unimportant job. It is necessary for the smooth running of any business. Salespeople depend on stock clerks for many duties. Some could include:

1. Receiving merchandise from the delivery trucks.
2. Comparing the delivery tickets with the actual merchandise received.
3. Checking for damaged items.
4. Putting new stock items on records.
5. Preparing price tags and attaching them.
6. Placing merchandise in departments.
7. Handling returned merchandise.
8. Helping with inventory.

A stock clerk could advance to the position of *head of stock* or into sales. Responsibilities and wages would increase.

Market research

Market researchers study what customers want and need. They survey boutiques, department stores, discount stores, and other retail outlets. They find out what is selling and what customers would buy if it were on the market. For instance, they may find a need for more athletic shoes or for brightly colored shirts.

This information is sent to manufacturers, designers, and buyers. It influences the textile industry and apparel production as well as fashion merchandising and promotion. A college degree in marketing is generally needed for this career.

Fashion coordinators

Fashion coordinators work to promote stores and the stores' merchandise. They visit wholesale and retail markets to see what is happening in the fashion world. They relay the information gathered on these trips to merchandise managers and buyers. They also work with their stores' advertising and publicity departments, 27-19. This allows the stores to coordinate their efforts in advertising, promotional



FEDERATED DEPARTMENT STORES, INC.

27-19 Fashion coordinators work with people in advertising and publicity to present a consistent image to customers.

events, and merchandising.

Planning fashion shows is usually a responsibility of fashion coordinators. They select garments and accessories from different departments within their stores. They hire the models and write the scripts for the shows. The day of a show, the fashion coordinator is generally the person who presents the show.

Classes for new salespeople on color, line, clothing construction, and clothing care could be taught by fashion coordinators. They might also offer classes on

planning and coordinating a wardrobe to customers. Talking to students and members of community organizations about fashion trends may also be included in their responsibilities.

Fashion coordinators are sometimes called fashion directors, promotion directors, or fashion consultants. They work for magazines, advertising agencies and mail-order companies as well as retail stores. Most have degrees from colleges or professional schools of fashion. A few have climbed the career ladder from sales posi-

tions. Successful fashion coordinators share certain important traits. They are able to work tactfully with people, speak to large audiences, and schedule time wisely.

Knowledge of fashion merchandising and broad retail experience is required for fashion coordinators. They must have a highly developed fashion sense plus imagination. They must have flair for fashion. They are expected to dress in the latest styles.

Display directors

Display directors create the attractive displays you see in store windows. When a suit or dress is shown, all the accessories to go with it are also shown. With a suit may be a shirt, necktie, handkerchief, belt, socks, and shoes. A dress may be displayed with jewelry, belts, scarves, and shoes. All of this is shown in a planned theme such as vacation time or the beginning of spring. You are supposed to want to buy not only the main garment but everything that goes with it, too.

The fashion coordinator works closely with the display director. They want to be sure the displays present the right fashion image of the store. Together they plan the total displays.

There may be several artists working with the display director. They must be creative and imaginative. Being able to sketch their ideas is necessary as they plan their displays.

A high school education is required. Courses in technical art, design, and fashion illustration would be valuable. Trade schools, community colleges, and universities offer these courses. Being an assistant could be a way to work up the career ladder to display director.

Fashion illustrators

Fashion illustrators work for retail stores, pattern companies, and advertising agencies. The work of fashion illustrators is complex. In each illustration, they show construction details (seams, topstitching, trims), fabric textures (stiff, bulky, flimsy), fabric designs (prints, plaids, solids) and fashionable accessories (hats, shoes, jewelry). In addition, each one must be an attractive picture that will catch the eye of the viewer. See 27-20.

To be successful, fashion illustrators must have artistic ability, creativity, and an interest in clothing. They also need further education at a university or a special school of art or fashion. Courses they should take



JOHN SENZER, FASHION INSTITUTE OF TECHNOLOGY

27-20 These students of fashion illustration are learning how to show construction details and accessories in attractive drawings that will catch people's attention.

include art, clothing and textiles, history, and psychology.

Fashion writers

Fashion writers must keep in contact with manufacturers and key people in the fashion industry. Then they can tell the public about new trends in fashion as soon as they occur. Press kits are sent to fashion writers from manufacturers and advertisers. They include detailed descriptions and photographs of new fashions.

These writers work under pressure with deadlines to meet. They must be able to write quickly, thoroughly, and accurately. They spend much time keeping up-to-date on new trends and products. Almost all jobs for fashion writers require a college degree in journalism and/or textiles and clothing.

Large newspapers have fashion writers and editors. They show and explain new fashions to readers. Often they have a daily column.

Mail-order catalog companies employ many writers. They must be able to accurately describe an item using few words. Consumers are interested in knowing as much as possible about the fabric, design, and care of a garment before they order it.

Television script writing is an interesting career. The scripts may be for either general viewing or educational programs. In some cities, a daily fashion program is produced. Men's, women's, and children's clothing may be shown. Descriptive material must be prepared. Preparing educational programs such as clothing classes for television requires informational material.

Many fashion writers and editors work for magazines and trade journals. Often their assignments are in a specific area such

as clothing, textiles, accessories, hairstyles, or makeup. A flair for writing and a keen sense of fashion trends are needed to be successful.

Pattern companies need writers who have a thorough knowledge of sewing techniques. These writers prepare booklets, charts, and filmstrips to be used by marketing departments. They write instructional materials for patterns, including cutting and sewing techniques and directions. They also prepare educational materials for use in fabric shops and classrooms.

Fashion models

Fashion models are needed in photos for press releases, mail-order catalogs, pattern catalogs, and advertisements.

Models are also needed in fashion shows. Seminars, trade shows, and conventions are popular places for fashion shows. Some large department stores and leading restaurants also feature them. They are often held at mid-day for shoppers to see the latest fashions.

For models, beauty is not as important as posture. Their goal is to make the garments look their best, as in 27-21. A flair for effective movements and an outgoing personality are needed traits.

Most models are tall and thin. This is because clothes are more attractive on tall, thin persons and because photographs seem to make persons look heavier.

To be a model, a person must be well-groomed and have a good personality. He or she must also be able to wear garments of a certain size without altering them. Modeling school is recommended. The opportunities in the field are limited, and the competition is keen. But for those who succeed, the wages are high.



THE FASHION ASSOCIATION

27-21 Successful models work to make clothes look as good as possible.

Not all models are in their twenties. A small number of younger boys and girls and older men and women model clothing. A few models begin their careers while they are still in junior and senior high school. Some department stores have Teen Fashion Boards or similar programs. Candidates are often chosen by home economics teachers. This could be a good way to determine if you like this work well enough to pursue it after high school.

Fashion photographers

A career in *fashion photography* often stems from an early interest in taking pictures. Those who specialize in fashion

photography work to make clothes and accessories look their best. They are also responsible for suggesting creative backgrounds for photos as in 27-22. In addition to still photography, they often work with film and videotape for advertisements and promotions.

MANAGING MULTIPLE ROLES

Throughout your life, you will have many roles. Right now you are a student, a son, or a daughter. You may also be a



SIMPLICITY PATTERN CO., INC.

27-22 The fashion photographer must plan and find interesting backgrounds.

brother or a sister, a friend, a class officer, or an employee. Each role requires that you fulfill certain responsibilities. Sometimes you may find it difficult to fulfill all of your responsibilities. For instance, as a student you may be required to write a term paper. Suppose it is due tomorrow and you are not quite finished. A friend of yours invites you to go to a movie tonight. How will you manage your roles as a student and as a friend?

As you get older you may take on parenting and career roles. In *dual-career families*, both parents work outside the home. Meeting both family and career responsibilities is challenging. However, balancing multiple roles can also be exciting and rewarding.

Striking a balance between these roles is the key. However, there is no magic way to do this. This is where management skills, such as planning, organizing, decision making, and being flexible must be used.

Decision-making skills are important. For instance, suppose you have a family. You value spending time with your family. You want to be a good parent and spouse. However, you are offered a position as a buyer that involves a great deal of travel. You may enjoy traveling. It may also help you move ahead in your career, which could help your family financially. How do you decide what to do? One way is to follow the decision-making method described in Chapter 10 of this text. (The decision-making skills discussed in Chapter 10 were in relation to making clothing deci-

sions. These same skills can be applied to personal decisions.)

Balancing roles requires managing your time. Time must be distributed among several roles. For instance, you will want to be able to spend time with your children as well as with your spouse. How much time will you need to devote to your career? How much time will you want to retain for yourself?

It helps if you can be flexible. Being flexible means that you are able to adapt to new situations. For example, suppose you and your spouse are working parents. One of your children becomes ill and is unable to go to school. Can you and your spouse make alternative arrangements at the last minute?

CAREER OPTIONS

A career in the field of textiles and clothing offers many options. Selecting one is not an easy decision. The following are questions you might want to ask yourself. What does each job entail? Which areas interest you the most? Do you like to work with people? Would you like to travel? Are you willing to start at an entry-level position, or would you rather obtain further education and start at a higher level? If you marry, what are your ideas about sharing housework or relocating to another city? By doing a self-study of your personal needs and wants and by exploring your career options, you will be ready for the challenges and rewards that await you.

to know

apparel marts	fashion merchandising
apparel production	fashion promotion
commission	research
custom-made	retail
development	textile designer
dual-career families	textile industry
fashion designer	wholesale

to review

1. What is the difference between textile designers and fashion designers?
2. More people are employed in _____ than in any other phase of the textile industry.
3. What information do market analysts provide to textile manufacturers?
4. List two places where fashion designers may get ideas for new garment designs.
5. Which of these factors helps determine the cost of producing a garment?
 - a. The type and amount of fabric.
 - b. The type and amount of trims.
 - c. The number and difficulty of steps in construction.
 - d. All of the above.
6. What is the job title of the person who plans sales, schedules in-service meetings for salespeople, and sets the budgets for buyers?
7. Buyers need access to records that show which _____, _____, and _____ of garments are selling best in their stores.
8. The goal of a fashion model is to:
 - a. Be beautiful.
 - b. Develop good grooming habits.
 - c. Be tall and thin.
 - d. Make clothes and accessories look as good as possible.
9. Describe how you would balance the multiple roles involving a family and a career.

to do

1. Write to the Department of Commerce for the names and addresses of textile manufacturers in your state. Then write to the manufacturers for information about jobs available, education requirements, job descriptions, and salaries.
2. Create textile designs for a man's shirt, a woman's evening dress, and a chair's upholstery.
3. Select one career in the textile industry and do further research on it. Find out more about job qualifications, duties and responsibilities, working conditions, and wages. Learn more about the role that this career plays in the overall functions of the textile industry. Report your findings to the class in an oral report.
4. Work in small groups to outline the creation and production of a garment. List all the people and all the steps involved in getting the garment to a manufacturer's showroom. Present your work in the form of a written report.
5. Create a garment design.
6. Role-play situations in which salespeople interact with customers. Focus on how the attitudes and actions of salespeople influence the attitudes and purchases of customers.
7. Select a career in fashion merchandising or promotion and come up with a creative idea a person in that career could use. The following suggestions may help you start thinking creatively. As a merchandise manager, plan a seasonal sale. As a fashion coordinator, plan a fashion show. As a display director, design a store window display.
8. Invite people who work in fashion merchandising and promotion to speak to your class. Be prepared to ask questions about job qualifications, responsibilities, rewarding experiences, and frustrations.

Glossary

A

- accessories.** Items such as shoes, scarves, legwear, handbags, billfolds, hats, neckties, jewelry, and belts; the items needed to complete an outfit. (16)
- acetate.** A manufactured fiber that looks and feels luxurious. It is very sensitive to high heat. (18)
- acne.** Any eruption (breaking out) of the skin. (5)
- acrylic.** A manufactured fiber that is often used as a replacement for wool. (18)
- adjacent colors.** Colors that are next to each other on the color wheel. (2)
- adjustment lines.** Two parallel lines that show where to shorten or lengthen a pattern piece. (22)
- alterations.** Changes made in the size, length, or style of a garment so it will fit properly. (12)
- alternatives.** Several ways to solve a problem or reach a goal. (10)
- analogous color scheme.** A color scheme or combination using adjacent colors on the color wheel. (2)
- antiperspirants.** Personal care products that reduce perspiration and control body odor. (4)
- apparel marts.** Major showrooms where many garment manufacturers have showrooms and sales offices. (27)
- apparel production.** All the people and processes involved in designing and making garments. (27)
- applied casing.** A casing formed by a separate piece of fabric or bias tape attached to a garment. (24)
- appliqué.** Sewing one or more small pieces of fabric to a larger piece of fabric or a garment to add a decorative touch. (12)
- asbestos.** A natural mineral fiber found in veins in rocks. Asbestos is not flammable. (18)
- autumn coloring.** A type of personal coloring with yellow undertones. Persons with autumn coloring look best in warm colors. (2)

B

- backstitching.** Sewing backward and forward in the same place for a few stitches to secure ends of thread. (23)
- balance.** The arrangement of objects in an even, pleasing way; a principle of design. (3)
- ballpoint pins.** Pins with rounded points that are

recommended for use with knits. (20)

- bargain.** A sale in which money is saved on items needed. (14)
- basket weave.** Variation of the plain weave made by passing two or more filling yarns over and under two or more warp yarns. (19)
- basting.** Making long, loose stitches by hand or machine. (23)
- batting.** The inner layer of a quilt, which is often made of polyester fiberfill, down, wool, or cotton, and which gives warmth to the quilt. (25)
- betweens.** Short needles with a small eye. (20)
- bias grain.** Diagonal fabric grain. (23)
- bleach.** A laundry product used to remove stains and whiten clothes. (13)
- blends.** Yarns made by spinning different types of staple fibers together into single yarns. (19)
- blow dryer.** An appliance used to dry hair. (7)
- blueing.** A product used to keep clothes white and bright. (13)
- body language.** Nonverbal communication, such as facial expressions and posture; the way a person uses his or her body, such as the eyes, arms, and hands. (1)
- body measurements.** The actual dimensions of the body. (21)
- bonded fabrics.** Fabrics made of two or more layers of fabric permanently sealed to one another. (19)
- bound buttonhole.** A buttonhole in which the edges are finished with fabric. (23)
- budget.** A spending plan that can help people manage money. (10)

C

- CAD (computer-aided design).** A computer system used to create textile and garment designs on a display screen. (17)
- calories.** The units of energy or “body fuel” provided by the foods a person eats. (4)
- CAM (computer-aided manufacturing).** A computer system used to control specific steps in the production of textiles and garments. (17)
- carding.** A process of cleaning textile fibers which separates fibers from each other, lays them parallel, makes them into a thin web, and forms them into a

continuous, untwisted strand of fibers called a carded sliver. (18)

Care Labeling Rule. A rule issued by the Federal Trade Commission that requires that all clothing (except hosiery) give clear, uniform, and detailed instructions for care and maintenance. (15)

casing. A fabric piece that encloses a drawstring or elastic which draws the garment snugly against the figure. (24)

cellulosic fibers. Fibers made from vegetable (plant) sources. Cotton and flax are the major natural cellulosic fibers used for clothing. (18)

check. A written order instructing a bank to take a specified amount of money out of the account on which the check is drawn and give it to the person whose name appears on the check. (16)

classic. A style that stays in fashion for a long time. (8)

clean-finish. A method of finishing the raw edge of a facing. Stitch 1/4 inch from the edge, turn under on the stitching line, and stitch again close to the edge. (23)

clearance sale. A sale planned when a store wants to sell items to make room for new merchandise. (14)

clipper. A tool used to clip threads at the start and end of every stitching line. (20)

clipping. Cutting into the seam line, but not through it, so that curved seams will lie flat. (23)

colorfast. Able to resist a change in color in spite of a certain influence such as washing, dry cleaning, perspiration, sunlight, or rubbing. (19)

color scheme. Appealing combinations of colors. (2)

color wheel. A chart that shows the relationship among colors or hues. (2)

combinations. Yarns made by twisting two different types of single yarns into ply yarns. (27)

combing. A process that follows carding in the production of finer yarns. Combing makes the fibers even more parallel and removes any short fibers. This leaves the longer fibers that make smoother, stronger yarns called combed sliver. (18)

commission. A percentage of total sales paid to a salesperson. (27)

comparison shopping. Looking at different brands and models of the same or similar products in several stores to compare prices, quality, features, and store services before buying. (14)

complementary color scheme. A color scheme using

colors that are directly across from one another on the color wheel. (2)

computer imaging. A computer program that allows an image on a display screen to be turned to any angle in a three-dimensional effect. (17)

conditioners. Products that help improve the condition or quality of hair. (7)

consumer. A person who uses goods and services; a buyer of goods and services. (14)

contact lenses. Vision correction lenses that are worn directly on the eyes. (6)

conventional zippers. Zippers used most often that open from the top. (20)

conversion chart. A chart that can help determine the amount of fabric needed if the fabric is narrower or wider than the pattern shows. (22)

cool colors. Colors that are close to blue on the color wheel. They are relaxing colors. Because they make objects seem farther away, they are also called receding colors. (2)

cord yarn. Yarn made by twisting ply yarns together. Ropes are often made from cord yarns. (19)

cortex. The middle layer of hair that contains the pigment that gives color to hair. (7)

cosmetics. Products used to improve or enhance a person's appearance. (5)

costume jewelry. Inexpensive jewelry often designed for wear with current fashions. (16)

cotton. A natural cellulosic fiber obtained from the cotton plant. (18)

credit. A promise to pay in the future for what is purchased today. (16)

credit card. Cards issued by stores, financial institutions, or credit card companies to be used to make credit purchases. (16)

crewel. Decorative stitching similar to embroidery except that yarn is used instead of thread. (25)

crewel needles. Needles with larger eyes. (20)

crochet. A craft similar to knitting, but only one needle is used. The needle is used to pull the thread through a loop or series of loops. (25)

crochet hook. The tool used to crochet. (25)

cross dyeing. The process of piece dyeing in which a fabric made of more than one fiber is placed in a dye bath that contains more than one dye. Each dye colors only a certain fiber, so a multicolored fabric like chambray can be produced from a single dye bath. (19)

crosswise grain. The direction of the filling yarns across the fabric from selvage to selvage. (19)

culture. The beliefs and customs of a particular racial, religious, or social group. (8)

curling iron. An appliance used to create curls or give shape to the hair. (7)

custom. A tradition or practice that has been handed down from one generation to the next. (8)

custom-made. Something made to the individual order of a customer or to fit particular specifications to meet the needs of the customer. (27)

cuticle. ⁽¹⁾ The skin at the base of the nail. ⁽²⁾ The outer layer that protects the hair. (6, 7)

cutting and sewing guide sheet. A printed sheet that gives detailed instructions on how to make a garment. (22)

cutting layouts. Printed guides that show how to lay the pattern out on the fabric according to view, size, and fabric width. (22)

cutting line. The bold outline around the edge of each pattern piece. (22)

D

dandruff. Flaking of the scalp. (7)

darning. Interlacing stitches to resemble the weave or knit of a fabric. Darning is done to mend small holes in fabrics or to reinforce worn places (as in heel of a sock) for longer wear. (12)

dart. A stitched fold that provides shape and fullness to a garment so that it fits the curves of the body. (23)

decision making. The process of making a choice. (10)

decision-making process. A method of making decisions and solving problems that is a step-by-step process. (10)

dental hygiene. The care of the teeth and gums. (6)

deodorants. Personal care products that control body odor while allowing normal perspiration. (4)

department stores. Stores that sell a variety of items and clothing in a wide range of styles, qualities, and prices. (14)

dermatologist. Doctor who specializes in treatment of the skin. (5)

dermis. The layer of skin where new skin develops. (5)

design. The arrangement of parts that produces an artistic unit. (3)

detergents. A chemical mixture made from petroleum and natural fats and oils used to clean clothes. (13)

development. Finding practical ways to use the products the researchers create. (27)

directional stitching. Sewing in the same direction the garment pieces were cut (generally from a wide area to a narrow area and from the top of a curve to the bottom), which prevents puckers. (23)

disability. A temporary handicap like a sprained arm or a broken leg, or a permanent handicap as a result of an injury, an illness, or a birth defect. (11)

discount stores. A store where items are sold at a discount price. (14)

dots. Aids for matching seams and often construction details on pattern pieces. (22)

draping. A method of fashion designing in which fabric is fitted to a dress form following the design lines of a sketch. (27)

dressmaker's pins. Brass pins that are medium in diameter with sharp points. (20)

drip-drying. Drying garments without squeezing, wringing, or twisting to remove the water. After rinsing, garments should be hung on rustproof hangers. (13)

dry cleaning. A process of cleaning clothes using organic chemical solvents instead of water. (13)

dry spinning. Process in which manufactured filaments harden as the chemical that was used to liquefy the filaments in their original state evaporates in warm air. (18)

dual-career families. Families in which both parents are employed outside the home. (27)

dyeing. At home, recoloring fabric or clothes. In manufacturing, adding color to textiles. (12)

E

easing. Joining two edges of fabric together when one edge is slightly larger than the other. No visible gathers should form. (23)

eating disorder. Abnormal eating behavior. Anorexia nervosa and bulimia are eating disorders. (4)

economics. How a society chooses to produce, distribute, and consume its goods and services. (8)

elastic tester. Piece of equipment used to determine the quality of elastic used in waistbands, cuffs, and stockings. (14)

elements of design. Color, line, form, and texture. (3)

embroidery. Decorative stitching made by using needle and thread. (25)

embroidery hoop. A set of two metal, plastic, or wooden rings. One ring fits inside the other. Fabric is held taut (tightly and smoothly) between the rings to prevent puckering. (25)

emery board. Pieces of thin cardboard covered with a grainy paper used to smooth edges and shape nails. (6)

emphasis. The center of interest; a principle of design. (3)

end-of-season sale. A sale held to make room for new merchandise for a new season. (14)

entrepreneur. People who organize, manage, and assume the risks of their own business. (26)

epidermis. The visible outer layer of the skin. (5)

evaluate. To determine the worth of something. (9)

exercise. An activity performed for physical conditioning. (4)

F

fabric. Textile product usually made by knitting or weaving fibers or yarns. (18)

fabric and accessory page. A page listing the sources of fabrics and accessories shown in pattern catalogs. (22)

fabric softener. Laundry products used to make garments soft and fluffy and to reduce wrinkles and static electricity. Some fabric softeners are used in the washer; others are used in the dryer. (13)

facing. A piece of fabric used to finish raw edges in a garment such as at the armholes, neckline, or other garment edges; the facing also adds some firmness to open areas and keeps them from stretching out of shape. (23)

factory outlet stores. Stores operated by manufacturers. (14)

fad. Something new that is popular for only a short period of time. (8)

farsighted. Able to see things that are far away more clearly than things that are near. (6)

fashion. The particular style of clothing that is popular at a given time. (8)

fashion cycle. The periodic return of specific styles and general shapes. (8)

fashion designer. Person who creates new designs for clothing and accessories for men, women, and children. (27)

fashion merchandising. A field that includes all the phases of buying and selling clothes and accessories. (27)

fashion promotion. A field that includes all the efforts made to inform people of what is new in fashion and convincing them to buy it. (27)

fasteners. Items used to close openings on garments. (20)

felt. Fabric made from short wool fibers. Wool fibers have overlapping scales. As heat, moisture, and pressure are applied to the fibers, the scales interlock to form a solid mass. (19)

fiber. Basic unit of all textiles. (17)

fiber dyeing. Process of dyeing fibers before they are spun into yarns; includes both solution dyeing and stock dyeing. Fiber dyeing is generally the most expensive method of dyeing. (19)

figure types. Sizing standards used by pattern companies to group figures according to height and proportion. (21)

filament. A continuous strand of fiber. Any manufactured fiber can be made in filament form. Silk is the only natural fiber that is a filament. (18)

filling yarns. Yarns that lie crosswise from selvage to selvage in woven fabric. (19)

films. Fabrics that are not made of fibers. They are thin sheets of vinyl and urethane. They are often used as a coating on other fabrics. (19)

fine jewelry. Jewelry usually made from gold, silver, or platinum. (16)

finishes. Physical or chemical treatments given to fibers, yarns, and fabrics that make the final product look, feel, or perform differently. (19)

first impression. An opinion a person forms within a few seconds of meeting another person. (1)

flame-resistant. A term used in relation to fabrics that are self-extinguishing or easy to extinguish. (11)

Flammable Fabrics Act. A law that specifies flammability standards for household textiles and apparel. (15)

flat collar. A collar that lies flat against the garment, also called a Peter Pan collar or shaped collar. (24)

flat-drying. Drying garments in a flat position that are likely to shrink or stretch out of shape. (13)

flax. The natural fiber used to make linen fabric. (18)

follow-up letter. A letter thanking the interviewer for taking the time to talk with the applicant. It is also an opportunity to fill in any gaps left open after the interview. (26)

Food Guide Pyramid. A guide to good nutrition that gives recommended numbers of servings from food groups. (4)

form. The shape of an object; an element of design. (3)
front hip pocket. An angular pocket often used on the front of pants and skirts. (24)
functional jewelry. Jewelry such as watchbands, cuff links, and tietacks that serve a basic purpose. (16)

G

gathers. Tiny, soft folds of fabric formed when a larger piece of fabric is sewn to a smaller piece. Gathers are fuller than easing. (23)
gauge. The number of stitches or loops per inch and the number of rows per inch. (25)
generic groups. Groups of manufactured fibers that are chemically alike. The Federal Trade Commission has identified 21 generic groups of fibers. (15)
goals. Something a person wants to accomplish. (10)
grading. When sewing, cutting each seam allowance to a different width. (23)
grain. Line of direction of lengthwise and crosswise yarns in a fabric, as lengthwise grain, crosswise grain, and bias grain. (23)
grain line. Line on pattern pieces that indicates how the pattern pieces should line up with the lengthwise grain or warp of the fabric. (22)
grooming. Taking care of oneself through good health habits and personal cleanliness. (4)

H

hand washing. Washing clothes by hand in a large pan, sink, or bathtub. (13)
hangnails. The tiny, loose pieces of skin along the side of nails. (6)
hangtags. Garment hangtags (as opposed to garment labels) are not required by law. Hangtags sometimes repeat the information given on labels and may also state the trademark, size, style number, price, and special features of the garment. Hangtags are removed from garments before the garments are worn. (15)
hard water. Water that contains minerals that will cause a soap scum or film to form when soap is used. (13)
harmony. A sense of unity in a design when all parts look as if they belong together. (3)
head lice. Tiny insects that live on the scalp and cause severe itching. (7)
hem. A finished edge on a garment. (23)
hook and loop tape. A type of fastener that consists of

two strips of looped nylon fabric. The two strips hold together when pressed with the fingers. (23)

hot rollers. Heated rollers used to curl hair. (7)

hue. The name of a color. (2)

I

impulse buying. Unplanned consumer purchases or “spur of the moment” buying of merchandise on display or on sale. (9)
Industrial Revolution. A movement in the late 1700s marked by major changes in the economy due to the invention of many machines, the introduction of steam power, and the development of the factory system. (17)
in-seam pocket. A pocket sewn in the side seam of a garment that does not show when the garment is worn. (24)
intensity. The brightness or dullness of a color. (2)
interfacing. A fabric that lies between two other fabrics. It is used to add body and/or strength to parts of garments such as collars, cuffs, and lapels. (23)
intermediate hues. Colors made by combining equal amounts of primary color and a secondary color; red-violet, blue-violet, blue-green, yellow-green, yellow-orange, red-orange. (2)
inventory. An itemized list of goods, possessions or resources. A wardrobe inventory is an itemized list of clothes. (9)
inventory sale. A sale held to reduce a store’s inventory either before stock is counted or after it is counted. (14)
invisible zippers. Zippers that look like regular seams from the right side of the garment. (20)
ironing. The process of removing wrinkles by using a gliding motion. (13)
irregulars. Defective items. (14)

J

Jacquard looms. Looms used to produce large and complex designs. The design of the fabric is programmed on a series of punch cards similar to computer cards. (19)
jute. A rough, coarse, weak natural fiber that weakens more with age. It is used for burlap bags. (18)

K

kimono sleeve. A sleeve cut in one piece as part of the garment front and back. (24)

knitting. Looping yarns together with a knitting machine to produce fabric. Also, making a garment or article by looping and twisting yarn when using two knitting needles. (19)

L

labels. Garment labels are required by law to state fiber content and care instructions. A label may also list the fabric construction, special finishes, performance standards, size, brand name, and guarantees. A label usually remains attached to a garment as it is worn (as opposed to hangtags which are removed). (15)

layaway buying. Placing a small deposit on an item so that the store will reserve it for a buyer. (16)

leader. A person who guides a group toward its goals. (26)

leadership. The capacity to lead or to direct others on a course or in a direction. (26)

lengthwise grain. Grain that runs along the warp of woven fabrics; has less stretch than crosswise grain. (19)

letter of application. A letter sent to a potential employer along with a resume to get the employer interested enough to arrange an interview. (26)

line. An element of design that gives a sense of motion and direction. (3)

line-drying. Drying clothes on a clothesline. (13)

lines. Collections of styles and designs created by fashion designers. (27)

looms. Machines for weaving fabrics. (19)

M

mace tester. A piece of equipment used to measure the snag resistance of knit fabrics. (14)

macrame. The art of tying knots in a pattern. (25)

mail-order shopping. A type of shopping that allows a person to shop at home by mail. (14)

manicure. A treatment for the care of hands and fingernails. (6)

manufactured fibers. Fibers not found in nature. Rayon, acetate, and triacetate are made from cellulose. Other manufactured fibers are made primarily from carbon, oxygen, hydrogen, and nitrogen. (17)

mass production. A manufacturing process that allows large numbers of items to be made at the same time. (17)

measurement page. A page in the back of pattern catalogs which gives the charts for different pattern sizes. (22)

medulla. The center core of hair. (7)

melt spinning. Process in which manufactured filaments harden as soon as they come in contact with cool air. (18)

mix-and-match wardrobe. A wardrobe in which garments can be combined with many other garments to create several different outfits. (10)

modacrylic. A manufactured fiber often used to make fake fur. (18)

monochromatic color scheme. A color scheme or combination using several values of one color. (2)

monofilament yarns. Yarns made from a single filament. (19)

multifilament yarns. Yarns made from many filaments. (19)

N

nap. A layer of fiber ends above the fabric surface. (24)

natural fibers. Fibers made from natural sources (plant or animal) and changed slightly during processing. Cotton, wool, silk, and flax are the most common natural fibers. (17)

nearsighted. Able to see things that are near more clearly than things that are far away. (6)

neutrals. Black, white, and gray are neutrals. White, the absence of color, reflects light. Black absorbs all colors. Gray is a blend of black and white. (2)

nonwoven fabrics. Fabrics made by arranging staple fibers into a web form. The fibers may be held together by adhesives, or heat may be used to “melt” the fibers together. (19)

notches. The diamond-shaped symbols along and beyond the cutting line on pattern pieces used to help join pattern pieces together. (22)

notions. Items other than fabric that become part of a garment or project. Thread, fasteners, and interfacing are examples. (20)

nutrients. The substances that a person gets from foods that help the body to grow and stay healthy. (4)

nutrition. Eating a variety of nourishing foods that will keep the body working properly. (4)

nylon. A manufactured fiber that is very strong and durable. (18)

O

- off-grain.** Fabric in which the warp and filling yarns do not run at a 90-degree angle to each other. This makes the fabric crooked and difficult to handle. (23)
- olefin.** A manufactured fiber that is the lightest fiber made. It is very strong and durable. (18)
- order of business.** The sequence of events during meetings. (26)
- ornamental jewelry.** Jewelry such as rings, bracelets, necklaces, and earrings that serve only a decorative purpose. (16)
- overweight.** Weighing too much for a person's body size. (4)
- oxygen bleach.** A mild "all-fabric" bleach that can be used on most colored fabrics; sometimes called "perborate." (13)

P

- parliamentary procedure.** An orderly way of conducting a meeting and discussing group business. (26)
- patching.** A garment repair technique in which a small piece of fabric is sewed over a hole. (12)
- patch pocket.** A pocket formed from a separate piece of fabric stitched on the outside of a garment. (24)
- patchwork.** Small pieces of fabric cut into shapes then sewn together by hand or machine to form a pattern. Quilts are made by patchwork. (12)
- pattern.** A "blueprint" for making a garment. (22)
- pattern catalogs.** A book listing and showing all the patterns a pattern production offers. (22)
- pattern ease.** Extra room built into a pattern so that clothes will be comfortable. (21)
- pattern grading.** The process of adjusting pattern pieces to make garments in a range of sizes. This process is now computerized. (17)
- pattern index.** A listing of patterns by number in the back of the pattern catalog. (22)
- pedicure.** A treatment for the care of feet and toenails. (6)
- peer group pressure.** Force that causes a person to want to be like other persons of the same age or status. (1)
- permanent.** A chemical treatment applied to the hair to create curls or hold a style. (7)
- personality.** The total of all the characteristics of a person that distinguish that person from all other people. (1)
- piece dyeing.** The process of dyeing in which color is added after the fabric has been made; the most common method of dyeing and generally the least-expensive. (19)
- piecework.** Work done one piece or one step at a time for which payment is made at a set rate per unit. (17)
- pile.** Yarn ends or loops extending above the surface of a fabric. (24)
- pilling tester.** Piece of equipment used to grade fabrics for their resistance to pilling. (14)
- pills.** Small balls of fiber that form on the surface of a fabric. Pilling usually occurs on places of wear, as the elbows of sweaters. (19)
- pinking shears.** A cutting instrument used to give seam edges a finished look. They can have a zigzag or scalloped cutting edge. (20)
- plain weave.** One of three basic weaves, the others being twill and satin. Plain weave is characterized by an "over one, under one" pattern. (19)
- plan.** A method used to achieve a goal. (9)
- plaque.** A layer of film on teeth that contains harmful bacteria that can cause tooth decay and gum disease. (6)
- ply yarn.** Yarn made by twisting two or more single yarns together. Each part of the yarn is called a ply. Ply yarns are larger and stronger than single yarns. (19)
- podiatrist.** Physician who specializes in foot care. (6)
- polyester.** A manufactured fiber that is very resistant to wrinkles, stretching, shrinking, bleach, sunlight, moths, and mildew. (18)
- posture.** The way the body is held when sitting, standing, and walking. Good posture helps a person look and feel good. (4)
- precious stones.** Stones such as diamonds, rubies, sapphires, and emeralds. (16)
- preshrunk.** Fabric that has been treated with heat and moisture to prevent it from shrinking more than three percent in either direction. (23)
- press cloth.** Cloth used to cover a garment before it is pressed to prevent "iron shine." (20)
- pressing.** The process of removing wrinkles from clothing using steam and a lifting motion. (13)
- pressing ham.** A padded round form used to help press curved seams and darts. (20)
- prewash sprays.** Products that remove oily stains and soil. (13)
- primary hues.** The three colors from which all other colors can be made; red, yellow, and blue. (2)

principles of design. Guides that tell how the elements of design should be combined. Balance, proportion, rhythm, and emphasis are the principles of design. (3)

proportion. The relationship between one part to another and of all the parts to the whole; a principle of design. (3)

protein fibers. Natural fibers from animal sources. Wool and silk are the two major protein fibers used for clothing. (18)

Q

quality. The performance characteristics of an item. (16)

quilt. Two layers of fabric with one layer of padding in between held together with stitches. (25)

quorum. A majority of members or a certain number of members as stated in the group's rules. (26)

R

raglan sleeve. A sleeve attached to the garment by front and back diagonal seams from the underarm to the neckline. (24)

ramie. A fiber often called "China grass." It comes from a shrubby plant often grown in China and India. (18)

rayon. A manufactured fiber that has cottonlike properties (18)

recycling. To reuse. Clothing can be recycled. Wool fabrics might be recycled and made into new fabrics. (12)

redesigning. To change a garment in its appearance or function. (12)

regular charge account. A charge account that allows a person to charge purchases in exchange for a promise to pay in full within 10 to 30 days after the billing date. (16)

resale shops. Stores that sell clothing that has been owned or worn before. (14)

research. Developing new products such as fibers, weaves, dyes, and finishing techniques. (27)

resources. The objects or abilities that can be used to reach goals. (10)

restyling. Giving a garment a new and different look. (12)

resume. A brief account of a person's education, work experience, and other qualifications for employment. (26)

retail. The business of selling to the consumer as opposed to selling for resale. (27)

revolving charge account. A charge account that

allows a person to make purchases up to a limit set by the creditor and the customer when the account was opened. (16)

rhythm. The feeling of movement created by line, shape, or color; a principle of design. (3)

robotic machine. A machine that operates automatically and is controlled by a computer. (17)

rolled collar. A collar that stands up from the neck slightly and then forms a roll around the neck. (24)

root. The living part of the hair below the scalp's surface. (7)

rubber. A manufactured fiber in which the fiber-forming substance is composed of natural or synthetic rubber. (18)

S

satin weave. One of three basic weaves, the others being plain and twill. Satin weave fabrics are made by floating a yarn from one direction over four or more yarns from the other direction and then under one yarn. The satin weave is used to make fabrics with a smooth, shiny surface. (19)

scalloping shears. Cutting instrument much like pink-ing shears, but with a more curved shape. (20)

scissors. Cutting instrument used to clip around curves and trim seams. They are usually short. The handles have small, matching holes. Blades are different widths. (20)

seam. A row of stitches. (23)

seam allowance. Fabric between the seam and the garment edge, usually 5/8 in. (1.5 cm). (23)

seam finish. Treatment of seam edges to prevent raveling and/or to improve appearance. (23)

secondary hues. Colors made by combining equal amounts of two primary colors; orange, green, and violet. (2)

self-casing. A casing formed by turning back the edge of the garment. (24)

self-concept. The mental image a person has of himself or herself. (1)

self-evaluation. The process of studying oneself and listing good and bad points. (1)

selvages. Side edges of a woven fabric, running in the direction of the lengthwise grain. Selvages are formed by the filling yarns as they are turned to go back across the warp yarns. Selvages are very strong and will not ravel. (23)

- semiprecious stones.** Stones such as jade, garnet, opal, and amethyst. (16)
- separating zippers.** Zippers that can come apart at the bottom. (20)
- sergers.** Machines that provide a factory-like finish to home-sewn garments. These machines join two layers of fabric to form a seam, trim away extra seam allowance width, and overcast the fabric edges all in one step. Also called overlock machines. (20)
- set-in sleeve.** A sleeve attached to the garment with a seam that goes around the armhole at the tip of the shoulders. (24)
- sewing gauge.** A 6-inch (15 cm) ruler with a sliding marker; used to measure hems, cuffs, space between buttons, and other short distances. (20)
- sew-through buttons.** Buttons with two to four holes. A thread is passed through the holes to sew buttons on a garment. (20)
- shade.** Dark value of a color made by adding black to the color. (2)
- shaft.** The part of hair that can be seen. It is dead tissue made up of three layers called the cuticle, cortex, and medulla. (7)
- shank buttons.** Buttons with a loop underneath. Thread is stitched through the loop. (20)
- sharps.** Needles most often used for hand sewing. They are average in length and have a small eye. (20)
- shears.** Cutting instrument used to cut fabrics. They are usually longer than scissors, and the handles are not the same size. (20)
- silhouette.** The shape or outline of a person's body. (1)
- silk.** A natural protein made from the cocoon of the silkworm. (18)
- silk pins.** Very slender pins with sharp points. (20)
- single yarn.** Yarn made with just one twisting step. (19)
- skirt marker.** A measuring tool used to mark an even hem. (20)
- sleeve board.** A padded sleeve-shaped board used to help press small details in garments. (20)
- snacks.** Foods eaten between meals. (4)
- soaking.** A stain or soil removal method in which clothing is allowed to set in water and soap or detergent for a length of time. (13)
- soap.** A chemical mixture made of fats and oils combined with lye; used to clean clothes. (13)
- society.** A group of people living and working together. (8)
- soft water.** Water that contains less minerals than hard water. (13)
- solution dyeing.** The process of dyeing manufactured fibers in which dye is added to the thick fiber liquid before the fiber is forced through the spinneret. (19)
- solvent.** A liquid substance used to dissolve greasy stains. (13)
- sorting.** Grouping clothes in piles according to the way they will be laundered. (13)
- spandex.** A manufactured fiber that is stretchable and made entirely from chemicals. (18)
- special committee.** A committee that is set up for a certain purpose, such as to find entertainment for a dance. (26)
- special-purchase sale.** A sale that offers products that have been bought especially for the sale. (14)
- specialty hair fibers.** Protein fibers which are often limited in supply and, therefore, more expensive. Examples are mohair and cashmere fibers from the goat family; camel, llama, alpaca, vicuna, and guanaco hairs of the camel family; and angora hair of the rabbit family. (18)
- specialty shops.** Shops that sell specific kinds of merchandise. (14)
- spinneret.** A small nozzle with many tiny holes through which the thick liquid is extruded, making manufactured fibers. (18)
- split leather.** Leather from portions of hides or skins that are split into two or more thicknesses. It has a rough texture and is often given a suede finish. (16)
- spring coloring.** A type of personal coloring with yellow undertones. Persons with spring coloring look best in warm colors. (2)
- spun yarn.** Yarns made from short, staple fibers. (19)
- stain.** A spot of discoloration caused by various liquids or solid materials. (13)
- standards.** Measures used for comparing products in quality, performance, and price. (16)
- standard sizes.** Sizes used by pattern companies that remain the same from issue to issue of the catalogs. (21)
- standing collar.** A collar that stands up from the neck edge of the garment. Also known as a band collar or mandarin collar. (24)
- standing committee.** Permanent committees of a group as specified in the group's bylaws. (26)
- staple fibers.** Short strands of fiber as opposed to long, continuous strands of filament. All natural fibers

except silk are staple fibers. All manufactured fibers can be produced in staple form. (18)

starch. A complex carbohydrate that produces a crisp, smooth surface on fabrics. (13)

staystitching. Sewing a line of regular machine stitching on a single thickness of fabric to stabilize the fabric. Stitching is done around curves and along bias edges of loosely woven or flimsy fabrics. (23)

stitching line. The broken line just inside the cutting line on pattern pieces. (22)

stock dyeing. Process of adding dye to loose fibers. (19)

style. Type of garment that has specific characteristics that make it unique. (8)

subcutaneous tissue. The layer of skin that is like a cushion with fat cells, veins, and arteries. (5)

summer coloring. A type of personal coloring based on blue undertones. Persons with summer coloring look best in cool colors. (2)

sunblock. A lotion that prevents tanning and sunburn. (5)

sunscreen. A lotion that allows the skin to tan, but protects it from sunburn. (5)

synthetics. Manufactured fibers. (17)

T

tape measure. A flexible measuring tool used to take body measurements. (20)

tartar. A hard, crusty substance that results when plaque is left on the teeth. (6)

telecommunication. The sending of messages electronically. (17)

textile. A cloth product. (17)

textile designer. Person who works with the design in or on fabrics. (27)

Textile Fiber Products Identification Act.

Government standards that outline labeling regulations for clothing and household textile items. (15)

textile industry. The people and processes involved in making and finishing fibers, yarns, and fabrics. (27)

textile mill. A building or buildings where raw materials are made into cloth. (17)

texture. The surface characteristics of fabric or other matter that appeals to the senses of sight and touch; an element of design. (3)

textured yarns. Yarns that have gone through the process of varying their appearance and stretchability. Twisting, crimping, coiling, and looping are ways of texturing. (19)

thrift shops. Shops that carry leftovers from other stores and some out-of-style garments. (14)

tie-dyeing. A method of dyeing where sections of fabric are folded or gathered and tied tightly with string or wrapped with rubber bands. When the fabric is dyed, the tied or wrapped portions resist (do not absorb) the dye, resulting in a design. (12)

tint. Light value of a color made by adding white to the color. (2)

top grain leather. Leather that has the natural animal grain. It is smooth and expensive. (16)

trademark. Identifying name, symbol, or design which sets a product apart from similar products or competitors. (15)

traits. The personal qualities that make a person different from everyone else. (1)

triacetate. A manufactured fiber similar to acetate but is more resistant to sunlight, wrinkles, and shrinkage. (18)

trimming. Evenly cutting away part of the seam allowance; usually done on lightweight fabrics. (23)

trouser zippers. Zippers with wider tapes and teeth than other zippers. The teeth are often made of metal. (20)

true bias. Fabric grain that runs at a 45 degree angle to the lengthwise and crosswise grains. It allows the greatest amount of stretch in a woven fabric. (23)

twill weave. One of three basic weaves, the others being plain and satin. Twill weave fabrics have a distinct diagonal line or wale. The twill pattern is made when the filling yarns float over one and under two or more warp yarns. Each float begins one yarn over from the last one. The floats can be either filling or warp yarns. (19)

twist. In yarn preparation, the degree to which the fibers or filaments are wound together. (19)

two-way zipper. Zippers that have sliders at the top and the bottom. They can be opened from either end. (20)

U

understitching. A row of stitches on the facing as close to the seam as possible through both seam allowances. This keeps the facing from rolling to the outside of the garment. (23)

underweight. Weighing less than a person should for his or her body size. (4)

V

value. The lightness or darkness of a color. (2)

variety stores. Stores that sell many different products including a limited amount of clothing. (14)

W

waistband. A strip of fabric attached at the waistline edge of the garment. It is visible above the waistline. (24)

waistline facing. A curved piece of fabric attached at the waistline that folds to the inside of the garment. (24)

wardrobe. All the clothes and accessories a person has to wear. (9)

warm colors. Colors close to red on the color wheel. They are stimulating colors, and they draw attention. Because they make objects seem nearer, they are sometimes called advancing colors. (2)

warp knitting. Process of knitting in which the loops interlock in the lengthwise direction of the fabric. All warp knits are made on flat machines. (19)

warp yarns. Yarns that lie in the lengthwise grain of fabric. (19)

weaving. Process of interlacing yarns at right angles to each other to make fabric. (19)

weft knitting. Process of knitting in which loops are made as yarn is added in the crosswise direction of the fabric. This can be done by either hand or machine, on either circular or flat machines. (19)

weighted silk. Silk which has had salts of tin, lead, or iron added to it to increase the weight and draping quality of the fabric—and thus to make it look more expensive. Over-weighting causes deterioration of the fabric. (18)

wet spinning. A process in which manufactured filaments pass from the spinneret directly into a chemical bath where they become solid. (18)

wholesale. The selling of quantities of goods for resale. (27)

winter coloring. A type of personal coloring with blue undertones. Persons with winter coloring look best in cool colors. (2)

wool. A natural protein fiber made from the fleece of sheep. The terms “wool,” “new wool,” or “virgin wool,” on a label mean that the fibers have never been used before for a fabric or garment. (18)

worked buttonhole. The edges of the buttonhole that are worked over with thread by hand or by machine. (23)

work ethic. A personal standard of conduct for job performance. (26)

worsted yarns. Yarns made from wool top (combed sliver). (18)

Y

yarn. A continuous strand made of fibers. (18)

yarn dyeing. A dyeing process in which yarns are first wound onto spools and then placed in a dye bath. Yarn dyeing is usually used for making plaid and striped fabrics. (19)

Z

zipper foot. A sewing machine accessory that makes it possible to sew closer to the zipper coils than a regular presser foot. (23)

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